<table>
<thead>
<tr>
<th>Page No.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Tentative Weekend Schedule</td>
</tr>
<tr>
<td>5</td>
<td>The Business Model of a Liberal Arts Education</td>
</tr>
<tr>
<td>20</td>
<td>Marketing HWS: Identity and Reputation</td>
</tr>
<tr>
<td>25</td>
<td>Teaching and Learning in the 21st Century: The HWS Connection</td>
</tr>
<tr>
<td>66</td>
<td>Campus Map</td>
</tr>
</tbody>
</table>
The President’s Colloquy
Geneva, NY
October 28 – 30, 2010

Draft Schedule: October 6, 2010

Thursday, October 28:

6:30 p.m. Welcome reception and dinner
President’s Home Hosted by President Mark D. Gearan and Mary Herlihy Gearan
690 South Main St.

Friday, October 29:

8:30 a.m. Breakfast
Vandervort Room Opening Comments
Second Floor, Scandling Campus Center
Mark D. Gearan
David Deming ’75

9:45 – 11:45 a.m. The Business Model of a Liberal Arts Education
Bob O’Connor, Vice President for Institutional Advancement
Pete Polinak, Vice President for Finance
Trustee Facilitators: Andy McMaster ’74 and Chip Carver ’81

We will discuss rising costs coupled with the impact of the financial crisis and the plan for delivering balanced budgets. How do we make Hobart and William Smith a financially competitive option for students of aptitude, merit and promise?

12:00 – 1:00 p.m. Lunch at Houghton House
Colleges Master Plan: Facilities, Technology and Sustainability

1:15 – 2:15 p.m. Campus tours beginning at the Caird Center for Sports and Recreation

2:15 – 2:45 p.m. Dessert at the Centennial Center for Leadership

3:00 – 5:00 p.m. Marketing HWS: Identity and Reputation
Seneca Room Bob Murphy, Vice President for Enrollment and Dean of Admissions
603 South Main St. Cathy Williams, Director of Communications
Trustee Facilitators:
In this session, we will address areas such as delivering on our promise to prospective students, characteristics of future students and the potential of the (new wording) in the 21st Century. How do we bring our brand to life in ways that are meaningful and provocative to a shifting demographic?

5:00 p.m. Break

6:30 p.m. Dinner
Remarks and discussion with Daniel Sullivan, President Emeritus, St. Lawrence University
Blackwell Room
Demarest Hall

9:00 p.m. After dinner drinks/socializing at the home of Provost and Dean of Faculty Teresa Amott.

Saturday, October 30:

8:00 a.m. Breakfast
Vandervort Room
Scandling Campus Center

8:30 a.m. State of the Colleges the Dean’s Perspective
Hobart Dean Eugen Baer
William Smith Dean Cerri Banks

9:00 – 11:00 a.m. Teaching and Learning in the 21st Century: The HWS Connection
Teresa Amott, Provost and Dean of the Faculty
Robb Flowers, Vice President for Student Affairs
Trustee Facilitators: Gail McGinn

We will explore the importance of faculty/student ratio, curriculum goals, global education, global citizenship, residential life, student activities, athletics, and community service. How do we continue to offer an innovative curriculum that is far-reaching in its aspirations yet practical in its applications and outcomes?

11:15 a.m. President Gearan – Closing Remarks
Campus Events:

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am - 4:30 pm</td>
<td>Bookstore hours (Friday and Saturday)</td>
</tr>
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<td>11:00 a.m.</td>
<td>HWS Sailing vs. War Memorial</td>
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<tr>
<td>12:00 p.m.</td>
<td>Hobart Football vs. Worcester Polytechnic Institute</td>
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<tr>
<td>2:00 p.m.</td>
<td>William Smith Field Hockey vs. Geneseo State</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Hobart and William Smith Cross Country Teams host the Liberty League Championships</td>
</tr>
</tbody>
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The Economic Future and Higher Education

By mid-2009, the Federal Reserve, U.S. Treasury and Congress had undertaken unprecedented measures to stop the economic meltdown that began with the bursting of the U.S. housing bubble in mid-2006 and accelerated into freefall with the collapse of Lehman Brothers and consequent freezing up of credit markets in October 2008. Martin Feldstein, George F. Baker Professor of Economics at Harvard University and president emeritus of the National Bureau of Economic Research, spoke in June 2009 at the Forum’s Aspen Symposium about the short-term prospects for economic recovery in the United States, and looked ahead to the coming decade for the American economy. He assesses the potential of the American Recovery and Reinvestment Act (aka the Obama economic stimulus package) to turn the economy around, and expresses serious concerns about its effectiveness beyond a one-time increase in GDP. Feldstein predicts continued increases in unemployment well into 2010 and sees no solid basis for forecasting when a sustained economy recovery will begin. Further, he expects slow GDP growth for the coming decade. Feldstein discusses the implications of a slow economic recovery for higher education affordability and funding. He also points toward the positive development presented by the surge in numbers of affluent families in Asia, China, the Middle East and India, which can afford to send their children abroad to study and, likewise, help to globalize American colleges and universities. Excerpts of Feldstein’s remarks are reprinted here.

**SHORT-TERM PROSPECTS FOR ECONOMIC RECOVERY**

It is accurate to say that this recession is fundamentally different from previous recessions in the post-war period. Typical post-war recessions were caused by the Federal Reserve raising real short-term interest rates in order to reduce inflation, or to prevent an increase in inflation. And they succeeded, usually relatively rapidly. And then the Fed was able to turn the policy around—to reduce those real short-term interest rates—and that led rather quickly to economic recovery.

This recession, however, was not caused by the Federal Reserve raising short-term interest rates. Therefore, when they started reducing short-term interest rates—now down to, essentially, zero—it really didn’t help. This downturn was caused by something different. It was caused by the mispricing...
We cannot have a sustained expansion without fully functioning credit markets. The dysfunctional credit market will remain one of the major problems holding back the economic recovery.

FEDERAL POLICIES

With that as background, let me turn to the economic policies of the Obama administration and their likely implications during this current downturn.

The administration has recognized the three major problems facing the US economy: declines in aggregate demand, dysfunctional credit markets, and a downward spiral of house prices. And they’ve developed policies to deal with each of these three problems. The three policies are, in my judgment, pointed in the right direction, but I believe they are inadequate in size and in scope. So I’ll discuss each of these three in turn, starting with the decline in aggregate demand.

Decline in Aggregate Demand

The magnitude of this decline is really enormous. The two main drivers of it are the decline in consumer spending and the decline in housing construction.
The fall in household wealth in the 24 months since the middle of 2007 was $1 trillion. Put that number in perspective: GDP about $16 trillion, personal income around $11 trillion. So this is an enormous decline in wealth. Past experience suggests that a falling off of that magnitude—$14 trillion—will lead to a sustained decline in consumer spending of at least $500 billion a year.

Housing construction has fallen about $250 billion, and while there is some indication that housing starts may have come back up a little bit, they’re still 50% below where they were in mid-2008.

So the declines in housing and consumer spending combine to a $750 billion decline in aggregate demand, equal to 5% of GDP. It’s an enormous hole and, indeed, a persistent hole. To address that, the Obama administration proposed a major fiscal stimulus package and Congress enacted it. The package is about $300 billion a year for 2009 and 2010, then some residual stimulus extends off into the future.

So that’s the picture. A basic shortfall of demand, $750 billion. And the policy offset of $300 billion. So there remains a hole of $450 billion or more. And that has second-round effects. Companies don’t get sales, so they cut back on production. When you cut back on production, you cut back on employment. When you cut back on employment, incomes fall. And so ultimately there are second-round effects on consumer spending.

And that’s why I think that the level of GDP will be slow to return to potential GDP, and with it a return to full employment. In fact, I think it is more likely the GDP will continue to decline in 2010.

**Dysfunctional Credit Markets**

Let me turn now from the first of the three problems, decline in demand, to the second problem, that is, the dysfunctional credit markets. I think we cannot have a sustained expansion without fully functioning credit markets. The dysfunctional credit market will remain one of the major problems holding back the economic recovery.

The key reason why our banking system is not working, why lending is not going forward, is a lack of confidence in the value of the assets on the banks’ balance sheets. The banks themselves don’t know, and they cannot know, whether the loans and securities that they have on their balance sheet will continue to perform or whether there will be further increases in the wave of defaults on residential mortgages—and on commercial real estate and other loans—leading to declines in the value of the assets on their balance sheets. That’s true of the individual loans, the mortgages, and even more so of the complicated structured products on the banks’ balance sheets.

Since the value of these assets is unknown, the value of the banks’ capital (assets minus liabilities) is also unknown. So the banks don’t know if they have enough capital to withstand their lending, and so what they’re doing instead is concentrating on improving their capital ratios by de-leveraging—that is, by cutting back on lending, not renewing loans, and so on.

To deal with this problem, the Treasury developed a plan to remove the impaired loans—previously known as toxic loans, now euphemistically called “legacy loans”—from the banks’ balance sheets. The goal is to remove the legacy loans from the banks’ balance sheets, cleansing the banks so that they can begin lending again.

The key to this Treasury plan is that it requires the banks to sell their impaired loans to private investors—to hedge funds, pension funds, sovereign wealth funds—in an auction process. The government, through the Federal Reserve and the FDIC, would provide most of the money as loans to these investors to encourage generous bidding for these impaired assets.

Unfortunately, the government has discovered that the banks are simply unwilling to sell the mortgage loans that are a major source of the problem. And that’s because our accounting rules allow the banks to continue to hold these impaired loans on their books at full value: no markdowns are required as long as the loan is a performing loan, as long as the borrower is current on interest and principal, even though the bank knows that because of the very high loan-to-value ratio, or because of other factors, that that loan is very likely sometime in the months ahead to default. But the bank doesn’t have to recognize that for accounting purposes and so carries the loan at full value. If the bank were to sell that loan in an auction process or in another way, it would have to write down the value of the loan and that, in turn, reduces its capital, which the banks don’t want to do.

I think to get the banks willing to sell these impaired assets, the government will have to offer to inject capital into these banks on terms that don’t dilute the equity investors—but so far the Treasury has not been willing to do so, and so we have hit an impasse in which the Treasury no longer has an active plan to address this problem.

**Declining Home Prices**

This brings me to the third of the problems that are making this downturn so damaging, and that is the problem of declining prices of homes. In addition to the collapse of aggregate demand and the dysfunctional credit markets, there is a downward spiral in housing costs, hurting household balance sheets and hurting the financial institutions.

This nation-wide meltdown in house prices reflects an unprecedented combination of three things that happened earlier in this decade:
First was the bubble in house prices. House prices rose some 60% in real terms relative to the long-term path that you would have expected. Second, there was an increase in loan-to-value ratios. In the good old days, banks made mortgage loans of 70%, even 80% of value. But in the hay days of 2006, 2007, they were willing to make loans of 100% of the house value, so that the borrower was buying the home with no equity investment. They sometimes made deals with a piggyback loan, a home loan for 80% and then a second mortgage for 20% on top of that. So we had rising prices and super-high loan-to-value ratios.

And the third piece was securitization—a change in the way the mortgage market operated, transforming the traditional model in which the local bank originated the loan and kept it on its balance sheet. Securitization led to the opportunity for sophisticated tranching that allowed converting portfolios made up of subprime loans, Alt-A loans, into securities—the majority of which could rated as Triple A.

So here we have it: a bubble in house prices, high loan-to-value ratios, and securitization.

In the middle of 2006, the price bubble burst and housing prices began to come down. That pushed these very high loan-to-value ratios to more than 100%.

Mortgages in the United States are effectively no recourse loans. As a result of a combination of the way mortgage loans operate, and the personal bankruptcy rulings, when a homeowner defaults, the creditor essentially cannot take more than the home. That is a different situation in the United States than virtually ever other country in the world. In other countries, if a homeowner defaults on a mortgage, the creditor can take not only the property, but can pursue other assets that the individual has and can take a significant portion of wages for a number of years.

But here, that’s not true. So individuals with very high loan-to-value ratios have a strong incentive to default. And we’re seeing a rising rate of defaults, and defaults inevitably lead to foreclosures.

Today more than 30% of homes with mortgages have negative equity. That is, more than 30% of homes in the United States have loan-to-value ratios greater than 100%. The median loan-to-value ratio in this group is over 130. So there is a strong and growing incentive to default. When homeowners default, the bank or the creditor takes the property and eventually sells it, driving down house prices. And as house prices go down, the number of homes with loan-to-value ratios greater than 100% rises, and that leads to a greater incentive to default.

If we see in the next 12 months what we saw in the last 12 months, when house prices declined 19%—and there is no sign of a slowdown in this rate of decline—then the number of homes with negative equity will amount to 50% of the homes with mortgages in the United States, and half of those are likely to have loan-to-value ratios at 140 or more. That will cause the volume of defaults and foreclosures to rise even more rapidly. So you can see why the banks are nervous about their balance sheets.

President Obama recently proposed a detailed plan to reduce foreclosures of residential mortgages. But all of the features of the administration’s plan are aimed at helping individuals who are having difficulty making their monthly payments because their income has fallen because they’ve been put on part-time work, they’ve lost their job, or because their mortgage interest rates have reset. They’re having difficulty paying.

The Obama plan is designed to help them make their monthly payments. But the plan gives no attention at all to the high and rising loan-to-value ratio problem. I think that’s a terrible mistake. I think the downward spiral of house prices not only hurts all homeowners, but also continues to weaken the banks’ balance sheets and inhibits their lending.

So that, in terms of the short-term outlook, is where we are. We’re in a major economic downturn. We’re in a major, on-going financial crisis. We face three major economic problems in achieving the recovery—declining aggregate demand, dysfunctional credit markets, and the downward spiral in house prices. In all, the administration has created plans to try to deal with each of these. I believe that each of these plans is really inadequate for the reasons that I’ve explained. They don’t do the task. So I remain very nervous about the economic outlook for the coming year.

THE DECADE AHEAD

Let me turn from these near-term problems to the outlook for the decade ahead. Something is going to get us through the economic downturn eventually. That’s the good news. It may be fixing the banking system, although they haven’t found a way to do that yet. It may be dealing with the high loan-to-value ratio problems, although they haven’t faced up to that. Or it may be a more competitive dollar that will stimulate exports and therefore raise GDP. Only time is going to tell which of these, or other things, will bring us out of this.

But let’s look beyond the near-term to the decade ahead. And for that, I’ll divide my comments into two parts. I want to talk first about the economic fundamentals that will determine the growth rate of GDP, and therefore the spending available for higher education and other things. And second, I want to talk about the impact of changing demographics on the competition for that GDP, including tax dollars.
Economic fundamentals are likely to imply a smaller rate of growth of GDP and, therefore, a smaller amount of spending available for higher education in the decade ahead than we’ve experienced in the last two decades. That’s something that I think most economists who have thought about this would agree. Or to put it differently, with slower growth of GDP, higher education will have to develop strategies to compete more effectively for its share.

Now why do we expect a slower growth of GDP? Over a period as long as a decade, the growth of GDP doesn’t depend on demand. It depends, rather, on capacity to produce. So we have to ask, what is it that is going to slow the increases in the capacity to produce, slow the increases in potential GDP, over the decade ahead? Well, the growth of capacity depends on three things: the growth of the labor force, the growth of the capital stock (business equipment and software), and the rate of increase of productivity.

The growth of the labor force over the next decade is relatively predictable. It will be slower than over the past decades, reflecting a slower growth of population—particularly population of working age—and an end to the rising labor force participation of married women, which has been a major contributor to the growth of the labor force over the past several decades.

The growth of the capital stock will depend on what happens to savings—to household savings, government deficits, and the capital inflow from the rest of the world. What can we expect about those? Well, the good news is that household savings is finally increasing after falling during most of the past few decades. Household savings as a share after-tax income came down over the past several decades from around 9% to almost zero. We saved less than 1% in 2007.

Households have responded to the loss of wealth by cutting back on their consumption in order to increase their savings, even though their incomes have fallen. Savings, after all, remember, is the difference between your after-tax income and your spending. So savings includes paying back debt. It also includes all the forms of saving that you can think of, including deposits in banks, buying securities, and so on.

So the savings rate has increased from less than 1% to now nearly 6%. And there’s every good reason to believe that that’s likely to continue as we go forward.

Now, that increase in the household savings rate will help to increase national saving, and therefore provide new sources for capital accumulation. But the overall rate of capital accumulation will be reduced by the combination of government dissaving—budget deficits—and by a decline in the flow of funds from the rest of the world. Here are the facts on that:

The Congressional Budget Office estimates that the government deficit will remain high for the next 10 years. Even after we no longer need fiscal stimulus, it will remain very high. Even on the optimistic assumption on which the Congressional Budget Office bases its calculations—that the economy will continue to grow for the next decade with no downturn, and that there will be no new spending programs—even on that basis, the national debt is forecasted to double from 40% of GDP to 80% of GDP over the next 10 years. And the annual deficit—the annual borrowing by the government—10 years from now is predicted to be more than 5% of GDP. Enough to absorb all of the household savings.

What about the capital inflow of the rest of the world? During the past decade, we’ve had a substantial inflow of capital from the rest of the world, reaching a peak of 7% of our GDP. That has now declined by about half, and will stay low or decline further as our trade deficit shrinks, as I believe it will, in the years ahead.

So looking ahead, we can see these forces reducing the growth of income. We will have lower growth in the labor force, and we will have weak growth, probably a lower rate of growth, from the capital stock.

Since productivity gains, the third of the determinants of the growth of potential GDP, are difficult to predict, the overall decline in the growth rate of GDP is uncertain. But it would be realistic to assume that the GDP growth rate will fall from about 2.5%—the real growth rate over the last 20 years—to about 1% or 1.5% in the coming decade.

If you think in terms of per capita GDP growth, the number would, of course, be even lower.

**IMPLICATIONS FOR HIGHER EDUCATION**

Slower growth of GDP means less income for households to spend on everything, including higher education. It also means less tax revenue for the federal government, and the state governments, to spend on higher education and student support, on research funding, and on the direct funding of state universities.

The availability of government funds for higher education will also be reduced by the increased cost to governments—both federal and state—of the programs on aging: Social Security, Medicare, and Medicaid. A surge in retirees and in Medicare eligibility begins next year, because the baby boom generation, born in 1945, 1946 will be reaching 65 years of age...
starting next year. And the problem is not just the Baby Boom
generation. It is not a temporary problem that passes after that
bulge of Baby Boomers moves on. It’s not temporary because
the population continues to age, and we will continue to see
an increase in the ratio of retirees to workers.

And so this is going to be a continuing burden on federal
spending and on state and local spending. The increasing cost
of Medicare and Medicaid is even a bigger problem than the
increased costs of Social Security pension benefits, because
Medicare costs have been driven up not only by the number of
recipients, but by two other things: First, the fact that medical
costs per recipient are rising as technology changes, and sec-
ond because of the fact that the older cohorts are bigger con-
sumers of medical care—and the older cohorts are increasing
in numbers more rapidly than the younger cohorts.

There’s a reasonable question whether that increase in the
cost of healthcare for the aging has to come out of the expan-
ditures for higher education, but I think it’s certainly produces
serious competition for funds. And it’s not just the federal gov-
ernment, it’s also state governments’ budgets because of the
states’ responsibilities for Medicaid.

CONCLUSION

I’ve emphasized the two economic developments that will
make the next decade more challenging for universities: slower
growth of GDP and an increase in government spending
for the aging.

Let me conclude by pointing to a development over the
years ahead that I think could provide positive opportuni-
ties for American universities: increasing affluence in foreign
countries. There has been, as you know, a dramatic rise in
incomes in other parts of the world, especially in Asia, the
Middle East, China and India. Although these countries will
remain relatively poor overall during the next several decades,
there will be rapidly increasing numbers of affluent families
that will go on to and be able to pay for higher education.

With more than one billion Chinese and more than one
billion Indians, we need only a very small fraction of the pop-
ulation to provide a substantial potential market for U.S. col-
leges and graduate schools. This should provide an opportu-
nity that will be not only financially helpful to American insti-
tutions, but that can also contribute to our role in educating
the global business, professional, and intellectual elites, and
to strengthening America’s positive image in those countries.

So I want to conclude by asking how you and your universi-
ties are likely to take advantage of these opportunities. Will it be
by recruiting students to come to the United States? Will it be
by establishing branches in those countries to teach there, per-
haps with those students spending part of their time on a U.S.
campus? Or will it be by collaborating in advanced research
in foreign university laboratories and other research facilities?

MARTIN FELDSTEIN is the George F. Baker Professor of
Economics at Harvard University and president emeritus of the Nation-
al Bureau of Economic Research. Feldstein was chairman of the Council
of Economic Advisers and President Reagan’s chief economic adviser:
In 2006, President Bush appointed him to be a member of the Presi-
dent’s Foreign Intelligence Advisory Board. In 2009, President Obama
appointed him to be a member of the President’s Economic Recovery
Advisory Board. Feldstein is a member of the American Philosophical
Society, the Trilateral Commission, the Council on Foreign Relations,
the Group of 30, and the American Academy of Arts and Sciences.
The Financial Crisis and The Future of Higher Education

The financial crisis has precipitated a wide range of responses throughout American higher education, ranging from addressing immediate financial problems such as the lack of liquidity to considering the role of the university in a changed world. Henry Bienen, president emeritus of Northwestern University, and David Boren, president of the University of Oklahoma, discuss the financial crisis and the future of higher education from the perspective of private and public institutions, respectively. Among other things, Bienen worries about the impact of the financial crisis on financial aid and the ability to attract lower-income students to higher education, and expresses concern about inconsistent research budgets from NIH and NSF. Boren emphasizes the importance of defending the liberal arts and global education in the face of pressure toward vocational education and cost cutting. Both discuss intercollegiate athletics finances as well. Excerpts of Bienen and Boren’s remarks are reprinted here.

RESPONSES TO THE FINANCIAL CRISIS

Henry Bienen, Northwestern University

I’m going to throw out some facts, which I think you probably all know, but they’re worth stating: Major research university endowments fell anywhere from 25-30% from their highs, and they’ve recovered somewhat, although I’d be nervous about endowments going forward. At Northwestern, we’re planning for flat endowments for the next two years. That’s what’s built into our budget model. If we get something better than flat endowments, good, but that’s what we’re planning. Of course, we don’t have any better idea than anybody else.

Responses to the financial crisis of the large endowment universities—say, over $3 billion—range from hiring freezes to actual cuts in staff and non-tenured faculty, to selective hiring; the last is what
we’ve done. We’ve actually done a lot of hiring because we see ourselves in a competitively advantageous position, and that comes from the fact spending from endowment for our operating budget is about 18%. There’s been an irony in the current economic conditions, that the wealthiest universities in the country have been heavily reliant on spending from endowment for their operating budgets. So the Harvards, Yales, Stanfords, Princeton’s have been at anywhere from 35 to 50%, if you take out the business schools and just look at their colleges. We’re not so reliant on spending from endowment, and we’ve had very conservative budgets over the years. We didn’t spend up to a rising endowment, and so we’ve had scope to make appointments, and we’ve been making a lot of them.

Now, that doesn’t mean that we haven’t taken cuts. We took 3% out of our operating budget, and we tabled about $90 to $100 million of capital expenditures. One anecdote I’ll share with you is that Larry Summers came to the most recent AAU meetings, and he looked out at the audience and said, you folks are smart. You’re long run thinkers. You should be counter-cyclical. You should be building like mad now, and the argument was that we had a relatively low inflation environment now. Construction is very weak so you can build cheap, and that’s true. But all the presidents turned to each other afterwards and said, I think he’s missing the liquidity issue. A lot of us have been borrowing in order to not have to sell distressed assets out of the portfolio, and so people are very worried about their bond ratings going forward. So if you borrow to build a lot, you’ve got a problem, which Larry—he was there in the stimulus package mode—overlooked.

In any case, there’s one good thing about this kind of austerity, I think, for a university, and that is you can get fat out of your budgets. We’ve been trying to look very closely at efficiencies, as I suspect almost everybody else. It’s not so easy, but we did it in 2001, 2002—at the last turn down.

There’s one aspect of this crisis that worries me a lot going forward, and that’s financial aid. At Northwestern, we didn’t push our financial aid budget as far as Harvard, Yale, and Stanford did, where essentially they went for no loans for people from pretty high income levels. We did that to some extent – $60,000 in family income would be a proxy. The algorithm is more complicated than just income, but we did expand no-loan packages, and that has had a big impact on our entering class. We went up 90% for people from Chicago public schools. We went up something like 80 or 90% for students who have Pell Grant awards. So expanding financial aid, and going for no-loan packages, gave us much more income diversity in our class, which is what we wanted to do. We did it very deliberately.

On the other hand, we increased our financial aid budget 10%, and we increased tuition 3.6%. That’s not sustainable. I don’t see how we could be able to continue to do that, and we’ve already have seen some small liberal arts colleges making changes. I think that if we continue to have flat or even declining endowments, we will see changes in financial aid formulas. I’m not saying that universities will abandon need-blind admissions, but I wonder whether the no-loan policies put in place while endowments were growing will be sustainable.

Another area that I think this crisis has made an impact on is the way people have thought about their investment portfolio. In a growing environment, what we’ve all said to our endowment managers, our chief investment officers, is do what you think you need to do in order to grow the endowment as fast as possible. I would say from the budget point of view, I would have greater priority these days than I would have had in the past for liquidity, because the structure of our endowments meant that we got lots of cash calls. We had to meet them. We went into the market and borrowed a couple of hundred million dollars, which is small compared to some of the big research universities borrowings. But there are a lot of opportunities now, no doubt, in private equity, and maybe even in venture going forward. There are a lot of opportunities in the public equity markets because everything has been beaten down. Who knows? But from the budget management point of view, I think liquidity is going to loom somewhat larger than in the past.

If you look at the revenue streams for the research universities, what should you think about? The macro data that we have on gifts show declines for universities like Northwestern of anywhere from 10% to 30%. If anybody has a theory that bad markets are good for giving, I’d like to hear it. I would say we’re in for a period of stress on gifts.

For the research universities, of course, we like to see big research funding. The stimulus package is very good for us in one sense, that lots more money is going to flow out of NSF and NIH, but research is not a moneymaker for anybody. Our research budgets have expanded a lot, and I think in the short run they’ll expand with the stimulus package. When we look at the stimulus package, if we were to get what we would consider our fair share—that is, what we normally get from budgets that come out of NSF and NIH—it may be about an additional $100 million for Northwestern. What that will mean in overheads is something else. Does anybody think that as we go forward beyond the stimulus package that the president and Congress will really be able to sustain very high levels NIH and NSF funding? That’s a big question. We hope so, because we think the funding is very important not just for the universities, but for the country. But if you look at macro budgets, what do you think? Do you think it’s going to happen? I don’t know, but it certainly would be a worry in this context.
Universities are not great at lopping off from their budgets. They can do it, but it's not an easy thing for them to do. You cut a little here, and you cut a little there. Will you do radical surgery in your budgets? Will you shut down institutes? I closed a dental school, which was the most painful thing that I did in 14 years. I wouldn't want to do such a thing again.

As we look to the future, I am worried about inflation. I'm not a macroeconomist, but I don't think anybody who runs a university could not be worried about it because in many ways inflation is tougher for universities to adjust to than deflation because we don't make widgets. We can't get huge productivity out of ourselves, and if we get into a high inflationary period, it's hard to pass it on in high tuitions. There's lots of pressure from politicians, and from your constituencies, if you just keep ratcheting up tuition. In fact, I mentioned our tuition is up 3.6% this year in nominal figures—not real, but nominal figures—that's the lowest in 40 years for Northwestern. That's very low for us, we were very sensitive about what we were going to do with tuition because we were worried about incomes. And if we get into stagflation, that will be the hardest thing.

We're also going to feel more pressures that education ought to be vocational to meet job market concerns. At Northwestern, in some parts of the university, we already do stream people into sort of designated paths for the job market—such as our journalism or engineering students—but I think in general we're going to see more pressures on liberal arts curriculum from parents, which will be to some extent passed on through the students.

At the same time, higher education has been a very large, growing sector of the economy. Allen Sinai talks about a doubling of the sector in the last decade. That's not going to happen in the next 10 years. That's just not going to happen, you're not going to see that kind of expansion in higher education. There is also more competition internationally. British and Australian universities, for example, are using students from Hong Kong, Singapore, and Malaysia for tuition growth. Some American universities do that, but I don't think it's done much by the elite universities. We've increased the number of non-American students at Northwestern from 1% to 6% in the last several years, during my time as president. We did it because we wanted a more diversified student body. We never thought about it as a revenue source. It didn't cross our mind, and we haven't thought about it for our international programs. We went to Qatar, and set up two schools there. We didn't think about it as a revenue source. Qatar is a positive revenue for us, but that's not what drove us there. Will the big elite universities think more about revenue sources as they go abroad? If they do, I don't think they're going to find that much, really. Qatar is very unusual. Very wealthy. There's going to be money for research, maybe, in some other places, but you're not going to find too many deals out there that are really income-producing for universities.

A couple other issues I want to bring up: Ph.D. production. We produce too many Ph.D.s. We don't do manpower planning, and I'm not sure anyone really can. The Soviets never got it right, and I can't imagine we would either in a highly centralized way. It's been hard to get a hold of Ph.D. production in certain fields. Again, universities have not been great at ratcheting back. They've let the market go, and just say, OK, we'll produce too many English Ph.D.s, they'll go somewhere else if they don't go to places like us.

Is that a good model? Is that sustainable?

Athletics. I think you all know that very few universities in Division I athletics make money from athletics. At Northwestern, we're lucky we have a small stadium, and we benefit from revenue sharing in the Big Ten. It's a very equitable model with regard to TV and Bowl revenue being shared. If you do real budgeting and take account of athletic scholarships, almost everybody loses money in athletics. What's the future going to hold? This is the time, I think, to try to get a hold of athletics and yet, I don't see any progress being made. The travel budgets are crazy for teams. We travel in the fall. We travel in the spring. It's a little nuts, and yet we can't get a hold of it in any way. Coaches' salaries go through the roof, and you say to yourself, if you're a place like us, we have high academic standards. But of course, we want to be competitive. It's a market. So on the one hand, it's the market that drives you to try to have competitive salaries for your coaches. On the other hand, it's outside the culture of our university to do that. I'm not going to be invidious and mention some of the
names of other universities that don’t seem to worry about it, but there’s a bar that gets set that even if you don’t meet it, you’re going towards it.

These are issues for the future, issues that you live with much more easily in a growing environment than in an austerity environment—whether it’s thinking about how you are going to deal with medical school budgets or with athletics. We also seem to be in a far less predictable environment than we’ve had for a very long time. That’s in part because there have been some flip-flops from the federal government, and it’s in part because the president and Congress have spiked up big science funding. What I’d like to see on science funding is a predictable, real 5% annual increase so that universities would know what they’re dealing with—instead of this doubling we had of the NIH budget, which was great, but then it went down in real terms during the Bush administration. That’s terrible for us. We have long-cycle spending. We build buildings. We put in equipment, which is long-cycle, and we’re caught in a year-to-year budgeting cycle, which is a very bad thing.

Thank you. I know that David can give you an account of what’s happening at the publics.

THE ROLE OF THE UNIVERSITY IN A GLOBALIZED WORLD
David Boren, University of Oklahoma

I’m going to try to turn this discussion in a bit of a different direction—a non-economic direction. I do want to mention, though, that in public education, we all realize that we’re certainly facing a continuing problem as we look out at the year after the stimulus ends. From the point of view of public education, that’s the most serious year because that’s when we have to try to rebuild the base that’s been backfilled by stimulus money. States have taken a lot of this money and merely substituted it for their previous budgets, and have lowered their real, sustainable base for higher education.

We face other problems in public education: the pressure toward vocational and trade approaches to higher education, which threaten the whole concept of liberal arts education. That’s particularly true when you’re dealing with public universities and state legislators, who ask, why do you need philosophy or classics departments? Why don’t you just train students so they can go out and immediately get a job? And, what’s an historian going to do?

At Oklahoma University we maintain a very strong classics and letters curriculum. It’s something we feel very strongly about. We have 800 majors in classics and letters out of 16,000 undergraduates. State legislators may well ask, what good is that? We face that sort of pressure—particularly as a public university. Members of Congress today have the fewest passports in the history of the country, precisely at the time when we most need to be globally involved. Some even brag about it. Our legislators are trying to pass English as the official language. They’re not interested in expensive programs that encourage our students to study abroad or to learn other languages. They consider that waste. So we must defend those priorities.

We’re also under tremendous pressure on tuition. Three states have taken the power to set tuition away from their universities and their board of regents. They set it in the legislature. That’s terrible because when state legislators have that authority, they hold you prisoner as a university on many other issues. First of all, they’ll give you zero tuition increase every election year because it’s unpopular for them to vote for tuition increases. I keep telling legislators that’s why you shouldn’t want that power and responsibility. Leave it to us to take the heat. We had no tuition increases this year. I announced very early on, about the first week of the legislative session, that we would have no tuition increases this year. We understand what our families are facing. That helped to take the wind out of the sails of two bills that were really moving forward to take away tuition setting authority from the universities.

I was tempted to skip any comment on athletics, but of course, coming from Oklahoma, I know what it means to be in a competitive race on coaches’ salaries and the rest of it. Let me tell you, we lead in our state in Rhodes Scholars. We’re first in the nation for National Merit Scholars enrolled per capita at a public university. We’re in the top 10 in Goldwater Scholars. Do they ever invite these scholars to come to the legislature to be honored? No. They invite our championship football team, and our coaches, and they honor them with resolutions. It is appropriate to honor outstanding athletes, but outstanding scholars should also be recognized. There is tremendous pressure at a public university where state pride is—as it is in many places and many cities—associated with success in athletics. Athletics become a very important part of the kinds of pressures that are put on you to not do anything that will hurt your competitive position and state pride. The pressure is to exempt athletics from budgeting constraints. You feel that at a public university, just as you feel the push towards vocationalism, and just as you feel the push back on globalization of the university at the very time we need to be doing it most.

What have we been doing at the University of Oklahoma? Many of the same things that were talked about by my
colleagues at private universities. While our endowment is not as significant as most, it’s about $1.5 billion and generates about 6% of our spending. It’s very important in terms of that margin of quality for a public university. We have a very well managed endowment that has suffered a lot less than others—under a 20% reduction, and we have a good averaging rule in terms of return. That’s been hard for us to deal with, but not as hard as it has been for the private universities. The whole question is the stimulus money, and what’s going to happen when it goes away.

This year we implemented a 3% budget cut. We’ve coined a new phrase: I call it “lucky foresight.” I claim it’s foresight, but it’s really luck. Before the meltdown, I became concerned. I was in fact criticized in the state newspaper for just trying to scare people into giving higher education more money. I thought that something was coming in our economy. We froze hiring except that the provost and I can still hit targets of opportunity for really talented people. In a public university, we really look for talented younger faculty coming out of the best PhD programs in the country, and we try to target them. It’s a great time for us now because the market is still difficult for them. We put in a hiring freeze early on, which has helped us because it gave us lead time. We had added about 200 faculty in the past four years. We also halted our new capital projects that were not already underway—we were worried about what would happen to the bond market. That also gave us more time to help ourselves prepare for the downturn.

We were also lucky in that starting about four years ago we began to focus all of our fundraising on scholarships as our number one priority. We doubled our private scholarship endowment at the university in four years. So for four straight years we’ve targeted a lot of additional help for middle income as well as low-income students, and we’ve been increasing our financial aid more quickly than we’ve been raising tuition. We can’t continue this forever, and obviously, we can’t continue a tuition freeze forever if we’re going to get through without having to have furlough days or without losing any of our faculty. We’ve reduced staff by attrition, and we’ve reduced some faculty by attrition, which we hate to do because we were making great improvement on our faculty-student ratio.

The other thing that has impacted us is that we’ve changed the entire ethical attitude in our athletics department over the last 20 years or so, and we now have high graduation rates. One of the things I did was call on our top coaches, and talk to them about the budget situation we faced and about how they must be a part of the team with the rest of the university. The university cannot continue the kind of increases that we’ve had in the past, and we couldn’t continue the kind of increases we’ve had in the athletic department either—although it’s not only self-sustaining, it is profitable. We put a surtax on our football tickets four years ago to give $1.5 million a year to the library, and this year we are ratcheting up the academic contribution of the athletics department to $7 million. So we are touching athletics. Maybe it will prove to be the third rail, but the nice thing about it was that I had our top six or seven coaches in and we really had a heart-to-heart talk about the problem, and the admiration that people had for them, and their need to become a part of this process. The response of our coaches was totally positive and very encouraging to me.

Now, let me move to a bigger picture because I think it’s very important. As we set financial priorities, as we face the kinds of constraints that we’re going to have, we need to consider that if we cut much further our great universities around the country will no longer be great. This is a real threat to the entire country. We should be unashamed about defending our universities. We need to work politically on this as well: all of us need to alert those people who love our universities, understand our universities, and also have tremendous political influence either as donors or activists. We need to mobilize all these people to fight for the universities. Preservation of universities has never been more important in our society than it is in this exact moment.

We’re going through the perfect storm. We have a financial crisis at the same time that we are going through a complete redefinition of America’s role in the world. We are the first generation in several generations living in a multi-polar world. Think about that: the two competing power blocs in the arms race finally broke into World War I. And we know that as we went into World War II, the world was in two camps—the forces of freedom versus the forces of fascism. We knew our role in the world. We were the leaders of the free world. Once the war ended, that situation morphed immediately into the Cold War, and once again, it was bi-polar, and we knew our
We are self-selecting ourselves into smaller and smaller groups of people like ourselves so that we very rarely come into contact with people who do not think like us... We even enforce our biases by deciding where we get our news. We choose our set of facts.
of this country. What is the cause, and what is the effect? Is the political, partisan polarization that we see in Washington D.C. the cause? I’ve written the president several memos about how to try to bring back bipartisanship because I think that is something that he is serious about, but you can’t do it unless you bring people physically together in small groups. I had a reunion with seven of my former colleagues and our spouses at Senator Danforth’s home in St. Louis just a few days ago. It was a great thing. Half of us there were Democrats, half were Republicans. We all truly love each other. We’ve remained close friends since we left the Senate, but one of the reasons is we began regular get-togethers in the Senate. We had potluck dinners at each other’s houses. We worked together on bipartisan propositions. Now, Republicans don’t even get to know the new Democrats, and new Democrats don’t even get to know the members of Congress who are Republicans. So where does it all come from?

A Texas journalist named Bill Bishop has written a fascinating book called The Big Sort, which points out that it’s not just polarization in Congress. It’s what’s going on throughout our society. We are self-selecting ourselves into smaller and smaller groups of people like ourselves so that we very rarely come in contact with people who do not think like us. In neighborhoods, we tend to live with people who think pretty much like we do. Even the mega-churches are creating slices of interest groups in these huge organizations of people who think alike—the same age, the same background, the same economic level, etc. They have “Sunday school” discussion groups together.

We’re choosing where we live. If you look at congressional districts, the number of runaway districts, landslide districts where Republicans or Democrats win by at least 60% to 65% of the vote, has doubled in the last 20 years. That means those are safely drawn districts, where you appeal to the extreme of the base of your party. You don’t need to appeal to the middle anymore. You can just win your own party because your party is going to win that congressional seat. It all plays out.

We’re even now to the point, according to Bishop in The Big Sort, where we not only avoid people who don’t think like us in our neighborhoods and in our churches, but we even enforce our biases by deciding where we get our news. We choose our set of facts. Do we watch MSNBC, do we watch Fox, or do we watch CNN, and which newspapers do we read—either on paper or online, which blogs, and so on. We tend to be self-selecting. We are fragmenting more and more, and if there is ever anything that is really going to affect the strength of this country, it’s fragmentation, because when you go back to what has brought us through so many crises, it is that strong sense of community.

We talk about interventions in families and in personal lives. I would say to you that there is one point of intervention left in our society to try to create that sense of community that has been so lacking, where there is tolerance, mutual respect, civility, and not unity of opinion: The university is the one place where we have a chance to intervene. We intervene by bringing people together who are very unlike, whether it’s racially, whether it’s culturally from where they come, whether it’s their economic level, whether it is their sexual preference, religious views—we could go on and on down the list. The university is the place that brings them all together. That’s why there is a residential aspect of the university, especially in the freshman year, which is so important.

When I got to the University of Oklahoma, students could pick their roommates. They could pick their suitemates. They could pick their hallmates. They put together packages of hallmates, and even picked their residence halls. There was absolute racial and economic segregation in housing that played out throughout the campus—in the dining halls, who students played hoops with, and how they socialized. I changed the system and told the students to pick one roommate or take potluck if they wish but that they can’t pick their suitemates. They can’t pick their hallmates. They can’t pick which dorms they live in. We’re going to shuffle the deck. Every dorm is going to look like every other dorm, so that you have to live with and be with and learn from and grow from people who don’t look like yourself. At a university, we can create real community, unlike any place else in our society these days as we are sorting ourselves out in a very, very damaging way.

What am I saying here? The question is, how do we mere 6% of the population remain world leaders? First, we must not apologize for our lead in higher education. It is the country’s one single greatest asset as we move into a very changed world. While we have only 6% of the world’s population, various surveys show that we have between 60% to 80% of the best higher education institutions in the world, and about 80% of the top 50 universities in the world—universities that teach people how to think critically and broadly in terms of the impact of their decisions. We must fight for this incredibly important asset. We must not give up.

Newsweek International editor Fareed Zakaria recently said that while India is turning out 3 times as many engineers, and China is turning out 10 times as many engineers as the United States, if you look at the top 2,000 that are being turned out in the world, 90% of them are still being educated in the United States. By the way, a significant portion of those coming as international students to study here stay here and have
been revitalizing this country for many, many years. Those who do go back to their own countries understand us better and become the strongest spokespeople for this country in their own societies.

Let us fight against compromising the basic purpose of the university itself. Let us fight against turning the university into a trade school, and against moving in a narrow vocational direction as public universities are being pushed to do. We must maintain the strength of our liberal arts core curriculum. As David McCullough said, we must understand ourselves; a nation that doesn’t know how it became great will not remain great. It’s frightening. One study found that 50% of the high school students surveyed who graduated from high school two years ago thought we fought on the side of the Nazis during World War II. 50%! Another survey of students at the top 20 ranked colleges and universities in the country found that 25% of them thought that the President of the United States had the power to suspend the Constitution and the Bill of Rights at his or her discretion. In terms of our own responsibility, one of the problems is that only 8% of American colleges require significant study of American history and American government, and yet all our students are citizens no matter what vocations they may pursue.

Whether it’s understanding other cultures or whether it’s understanding ourselves, we must not allow this economic crisis to cause us to cut into the broad liberal arts mission of the university, or to cut the areas in which we teach people how to think independently, because that is our strength. We must not give up on the residential model of universities because that’s the point of intervention in the “big sort” that’s going on in this country. We desperately need to end polarization. We desperately need to increase community. We desperately need to increase dialogue. The university is the best place to do that, by building on the diversity in our universities, and by making sure that while we are diverse, that we’re not living apart, and by using the university as a setting of intervention in which to bring people together. It’s absolutely essential.

Finally, we must not give up or cut corners on global education, even though it is costly. And that means not just using it as a source of tuition, but incentivizing outstanding students from other countries and making it possible for them to come and study at our institutions. We must also make it possible for our students, including those who are not affluent, to have study abroad experiences. We must not give up on global education.

My message this morning is that as we struggle with cost cutting, as we struggle with priority setting, and as we struggle within the political environment that we face, we must not forget who we are and why we are. We must not miss the point that never at a time in our history has the university been more important. We must be more sophisticated about how we play our role in the world. We must be more inclusive. We must form partnerships. Global education is essential to making these things possible. Setting financial priorities should never lead to compromising our basic mission.

HENRY BIENEN is president emeritus of Northwestern University, a position he held from 1995 – 2009. Prior to that, he was the James S. McDonnell Distinguished University Professor and dean of the Woodrow Wilson School of Public and International Affairs at Princeton University. Bienen is a member of the boards of directors of the Council on Foreign Relations and the Chicago Council on Global Affairs, serves on the Knight Foundation Commission on Intercollegiate Athletics, and is a member of the American Academy of Arts and Sciences. He can be reached at hsbienen@northwestern.edu.

DAVID BOREN is president of the University of Oklahoma, where he has served since 1994. Prior to that, he served in the U.S. Senate from 1979 until he resigned in 1994 upon his appointment to the presidency at Oklahoma. He had been reelected in 1990 with 83 percent of the vote, the highest in the nation in a U.S. Senate contest that election year. From 1974 to 1979, Boren served as governor of Oklahoma, and was the youngest governor in the nation at that time. He was a member of the Yale board of trustees from 1988 to 1997. Boren can be reached at davidboren@ou.edu.
Hobart and William Smith Colleges

Benchmark Comparisons
August 2009
Interpreting the Benchmark Comparisons Report

To focus discussions about the importance of student engagement and to guide institutional improvement efforts, NSSE created five Benchmarks of Effective Educational Practice: Level of Academic Challenge, Active and Collaborative Learning, Student-Faculty Interaction, Enriching Educational Experiences, and Supportive Campus Environment. This Benchmark Comparisons Report compares the performance of your institution with your selected peers or consortium. In addition, page 9 provides two other comparisons between your school and (a) above-average institutions with benchmarks in the top 50% of all NSSE institutions and (b) high-performing institutions with benchmarks in the top 10% of all NSSE institutions. These displays allow you to determine if the engagement of your typical student differs in a statistically significant, meaningful way from the average student in these comparison groups. They also provide more insight into how the student experience varies on your campus and in comparison groups. More detailed information about how benchmarks are created can be found on the NSSE Web site at www.nsse.iub.edu/2009_Institutional_Report/.

Class and Sample
Means are reported for first-year students and seniors. Institution-reported class levels are used. All randomly selected students are included in these analyses. Students in targeted or locally administered oversamples are not included.

Statistical Significance
Benchmarks with mean differences that are larger than would be expected by chance alone are noted with one, two, or three asterisks, denoting one of three significance levels (p<.05, p<.01, and p<.001). The smaller the significance level, the smaller the likelihood that the difference is due to chance. Please note that statistical significance does not guarantee that the result is substantive or important. Large sample sizes (as with the NSSE project) tend to produce more statistically significant results even though the magnitude of mean differences may be inconsequential. It is recommended to consult effect sizes to judge the practical meaning of the results.

Effect Size
Effect size indicates the practical significance of the mean difference. It is calculated by dividing the mean difference by the pooled standard deviation. In practice, an effect size of .2 is often considered small, .5 moderate, and .8 large. A positive sign indicates that your institution’s mean was greater, thus showing an affirmative result for the institution. A negative sign indicates the institution lags behind the comparison group, suggesting that the student behavior or institutional practice represented by the item may warrant attention.

Benchmark Description & Survey Items
A description of the benchmark and the individual items used in its creation is provided.

Box and Whiskers Charts
A visual display of first-year and senior benchmark score dispersion for your institution and your selected comparison or consortium groups.

Box and Whiskers Key
A box and whiskers chart is a concise way to summarize the variation of student benchmark scores. This display compares the distribution of scores at your institution, in percentile terms, with that of your comparison groups.

The ends of the whiskers show the 5th and 95th percentile scores, while the box is bounded by the 25th and 75th percentiles. The bar inside the box indicates the median score, and the dot shows the mean score.

NSSE 2009 Benchmark Comparisons


Page 1
### Mean Comparisons

<table>
<thead>
<tr>
<th>Class</th>
<th>HWS</th>
<th>Financial Comparison</th>
<th>Carnegie Class</th>
<th>Selected LA Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>Sig</td>
<td>Effect Size</td>
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<tr>
<td>First-Year</td>
<td>62.2</td>
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<tr>
<td>Senior</td>
<td>64.6</td>
<td>63.0</td>
<td>*</td>
<td>.13</td>
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1. Weighted by gender, enrollment status, and institutional size.
2. * p<.05  ** p<.01  ***p<.001 (2-tailed).
3. Mean difference divided by the pooled standard deviation.

### Distributions of Student Benchmark Scores

#### First-Year

![Box and whiskers chart for First-Year benchmark scores]

#### Senior

![Box and whiskers chart for Senior benchmark scores]

Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

### Level of Academic Challenge (LAC) Items

Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance.

- Preparing for class (studying, reading, writing, doing homework or lab work, etc. related to academic program)
- Number of assigned textbooks, books, or book-length packs of course readings
- Number of written papers or reports of 20 pages or more; number of written papers or reports of between 5 and 19 pages; and number of written papers or reports of fewer than 5 pages
- Coursework emphasizes: **Analysis** of the basic elements of an idea, experience or theory
- Coursework emphasizes: **Synthesis** and organizing of ideas, information, or experiences into new, more complex interpretations and relationships
- Coursework emphasizes: **Making of judgments** about the value of information, arguments, or methods
- Coursework emphasizes: **Applying** theories or concepts to practical problems or in new situations
- Working harder than you thought you could to meet an instructor's standards or expectations
- Campus environment emphasizes: Spending significant amount of time studying and on academic work.
Active and Collaborative Learning (ACL)

Mean Comparisons

<table>
<thead>
<tr>
<th>Class</th>
<th>HWS Mean</th>
<th>Financial Comparison Mean</th>
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<th>Carnegie Class Mean</th>
<th>Effect Size</th>
<th>Selected LA Colleges Mean</th>
<th>Effect Size</th>
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<tr>
<td>First-Year</td>
<td>49.9</td>
<td>44.6</td>
<td>*** .35</td>
<td>46.3</td>
<td>*** .23</td>
<td>44.4</td>
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<tr>
<td>Senior</td>
<td>57.5</td>
<td>50.3</td>
<td>*** .48</td>
<td>54.1</td>
<td>*** .21</td>
<td>51.2</td>
<td>*** .41</td>
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</tbody>
</table>

1 Weighted by gender, enrollment status, and institutional size.
2 * p<.05 ** p<.01 *** p<.001 (2-tailed).
3 Mean difference divided by the pooled standard deviation.

Distributions of Student Benchmark Scores

First-Year

Senior

Active and Collaborative Learning (ACL) Items

Students learn more when they are intensely involved in their education and asked to think about what they are learning in different settings. Collaborating with others in solving problems or mastering difficult material prepares students for the messy, unscripted problems they will encounter daily during and after college.

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class
- Worked with classmates outside of class to prepare class assignments
- Tutored or taught other students (paid or voluntary)
- Participated in a community-based project (e.g., service learning) as part of a regular course
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
**Student-Faculty Interaction (SFI)**

### Mean Comparisons

<table>
<thead>
<tr>
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<td>37.3</td>
<td>*** .50</td>
<td>38.5</td>
<td>*** .42</td>
<td>36.2</td>
<td>*** .56</td>
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<tr>
<td>Senior</td>
<td>56.4</td>
<td>50.6</td>
<td>*** .28</td>
<td>51.6</td>
<td>*** .22</td>
<td>49.9</td>
<td>*** .32</td>
</tr>
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</table>

1 Weighted by gender, enrollment status, and institutional size.

b *p<.05 **p<.01 ***p<.001 (2-tailed).

c Mean difference divided by the pooled standard deviation.

---

**Distributions of Student Benchmark Scores**

**First-Year**

<table>
<thead>
<tr>
<th>100</th>
<th>HWS</th>
<th>Financial Comparison</th>
<th>Carnegie Class</th>
<th>Selected LA Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td></td>
<td></td>
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<td>50</td>
<td></td>
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</tr>
<tr>
<td>25</td>
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</table>

**Senior**

<table>
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<tr>
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<th>HWS</th>
<th>Financial Comparison</th>
<th>Carnegie Class</th>
<th>Selected LA Colleges</th>
</tr>
</thead>
<tbody>
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<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
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<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

---

**Student-Faculty Interaction (SFI) Items**

Students learn firsthand how experts think about and solve practical problems by interacting with faculty members inside and outside the classroom. As a result, their teachers become role models, mentors, and guides for continuous, life-long learning.

- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside of class
- Worked with faculty members on activities other than coursework (committees, orientation, student-life activities, etc.)
- Received prompt written or oral feedback from faculty on your academic performance
- Worked on a research project with a faculty member outside of course or program requirements
Enriching Educational Experiences (EEE)

Mean Comparisons

<table>
<thead>
<tr>
<th>Class</th>
<th>HWS Mean</th>
<th>HWS Significance</th>
<th>Financial Comparison</th>
<th>Mean</th>
<th>Significance</th>
<th>Effect Size</th>
<th>Carnegie Class</th>
<th>Mean</th>
<th>Significance</th>
<th>Effect Size</th>
<th>Selected LA Colleges</th>
<th>Mean</th>
<th>Significance</th>
<th>Effect Size</th>
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<td>**</td>
<td>.19</td>
<td>31.6</td>
<td>**</td>
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<td>***</td>
<td>.28</td>
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<td>55.6</td>
<td>*</td>
<td>.17</td>
<td></td>
</tr>
</tbody>
</table>

1 Weighted by gender, enrollment status, and institutional size.
2 * p<.05 ** p<.01 ***p<.001 (2-tailed).
3 Mean difference divided by the pooled standard deviation.

Distributions of Student Benchmark Scores

First-Year

---

Senior

---

Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

Enriching Educational Experiences (EEE) Items

Complementary learning opportunities enhance academic programs. Diversity experiences teach students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors. Internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge.

- Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, etc.)
- Practicum, internship, field experience, co-op experience, or clinical assignment
- Community service or volunteer work
- Foreign language coursework / Study abroad
- Independent study or self-designed major
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)
- Serious conversations with students of different religious beliefs, political opinions, or personal values
- Serious conversations with students of a different race or ethnicity than your own
- Using electronic medium (e.g., listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment
- Campus environment encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Participate in a learning community or some other formal program where groups of students take two or more classes together
Supportive Campus Environment (SCE)

Mean Comparisons

<table>
<thead>
<tr>
<th>Class</th>
<th>HWS</th>
<th>Financial Comparison</th>
<th>Carnegie Class</th>
<th>Selected LA Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Sig</td>
<td>Effect Size</td>
<td>Mean</td>
</tr>
<tr>
<td>First-Year</td>
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<td>.06</td>
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<tr>
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<td>***</td>
<td>.21</td>
<td>63.8</td>
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</tbody>
</table>

* Weighted by gender, enrollment status, and institutional size.
** * p<.05 ** p<.01 ***p<.001 (2-tailed).
† Mean difference divided by the pooled standard deviation.

Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

Distributions of Student Benchmark Scores

Supportive Campus Environment (SCE) Items

Students perform better and are more satisfied at colleges that are committed to their success and cultivate positive working and social relations among different groups on campus.

- Campus environment provides the support you need to help you succeed academically
- Campus environment helps you cope with your non-academic responsibilities (work, family, etc.)
- Campus environment provides the support you need to thrive socially
- Quality of relationships with other students
- Quality of relationships with faculty members
- Quality of relationships with administrative personnel and offices
Interpreting the Top 10% and Top 50% Comparisons

This section of the NSSE Benchmark Comparisons report allows you to estimate the performance of your average student in relation to the average student attending two different institutional peer groups identified by NSSE for their high levels of student engagement: (a) those with benchmark scores placing them in the top 50% of all NSSE schools in 2009 and (b) those with benchmark scores in the top 10% for 2009. These comparisons allow an institution to determine if the engagement of their students differs in significant, meaningful ways from students in these high performing peer groups.

Example

<table>
<thead>
<tr>
<th>NSSEville State</th>
<th>NSSE 2009 Top 50%</th>
<th>NSSE 2009 Top 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Sig</td>
</tr>
<tr>
<td>LAC</td>
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<td>*</td>
</tr>
<tr>
<td>ACL</td>
<td>50.3</td>
<td>***</td>
</tr>
<tr>
<td>SFI</td>
<td>37.3</td>
<td>.01</td>
</tr>
<tr>
<td>EEE</td>
<td>21.8</td>
<td>***</td>
</tr>
<tr>
<td>SCE</td>
<td>60.9</td>
<td>***</td>
</tr>
</tbody>
</table>

NSSEville State CAN conclude...

- The average score for NSSEville State first-year students is slightly above (i.e., small positive effect size) that of the average student attending NSSE 2009 schools that scored in the top 50% on Level of Academic Challenge (LAC).
- The average NSSEville State first-year student is as engaged (i.e., not significantly different) as the average student attending NSSE 2009 schools that scored in the top 10% on Active and Collaborative Learning (ACL).
- It is likely that NSSEville State is in the top 50% of all NSSE 2009 schools for first-year students on Level of Academic Challenge (LAC) and Active and Collaborative Learning (ACL).^a

NSSEville State CANNOT conclude...^a

- NSSEville State is in the top half of all schools on the Student-Faculty Interaction (SFI) benchmark for first-year students.
- NSSEville State is a "top ten percent" institution on Active and Collaborative Learning (ACL) for first-year students.

For additional information on how to understand and use the Top 50% and Top 10% section of the benchmark report, see www.nsse.iub.edu/2009_Institutional_Report/.

^a Precision-weighted means (produced by Hierarchical Linear Modeling) were used to determine the top 50% and top 10% institutions for each benchmark, separately for first-year and senior students. Using this method, benchmark scores of institutions with relatively large standard errors are adjusted substantially toward the grand mean of all students, while those with smaller standard errors receive smaller corrections. Thus, schools with less stable data, though they may have high scores, may not be identified among the top scorers. NSSE does not publish the names of the top 50% and top 10% institutions because of our commitment not to release individual school results and our policy against the ranking of institutions.
**Legend**

- **HWS**
- Top 50%
- Top 10%

This display compares your students with those attending schools that scored in the top 50% and top 10% of all NSSE 2009 institutions on a particular benchmark.

### Active and Collaborative Learning (ACL)

First-Year

Senior

### Student-Faculty Interaction (SFI)

First-Year

Senior

### Enriching Educational Experiences (EEE)

First-Year

Senior

### Supportive Campus Environment (SCE)

First-Year

Senior

Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

* Weighted by gender, enrollment status, and institutional size.

** p<.05  *** p<.001 (2-tailed).

Mean difference divided by the pooled standard deviation.
### First-Year Students

#### Level of Academic Challenge (LAC)

<table>
<thead>
<tr>
<th>Reference Group</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>5th</th>
<th>25th</th>
<th>50th</th>
<th>75th</th>
<th>95th</th>
<th>Sig.</th>
<th>Diff.</th>
<th>Effect size</th>
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<td>62</td>
<td>71</td>
<td>81</td>
<td></td>
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<td>.3</td>
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<td>37</td>
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<tr>
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<td>.0</td>
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<td>.1</td>
<td>37</td>
<td>50</td>
<td>59</td>
<td>68</td>
<td>79</td>
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<td>.000</td>
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#### Active and Collaborative Learning (ACL)

<table>
<thead>
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<th>SD</th>
<th>SEM</th>
<th>5th</th>
<th>25th</th>
<th>50th</th>
<th>75th</th>
<th>95th</th>
<th>Sig.</th>
<th>Diff.</th>
<th>Effect size</th>
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<td>44</td>
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<td>Selected LA Colleges</td>
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<td>52</td>
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<td>.0</td>
<td>24</td>
<td>38</td>
<td>48</td>
<td>57</td>
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#### Student-Faculty Interaction (SFI)

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<th>SEM</th>
<th>5th</th>
<th>25th</th>
<th>50th</th>
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<th>95th</th>
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<td>47</td>
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<td>.1</td>
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<td>.1</td>
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<td>39</td>
<td>50</td>
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#### Enriching Educational Experiences (EEE)

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<th>SEM</th>
<th>5th</th>
<th>25th</th>
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<th>95th</th>
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<th>Diff.</th>
<th>Effect size</th>
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<td>.1</td>
<td>12</td>
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<td>41</td>
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#### Supportive Campus Environment (SCE)

<table>
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<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>5th</th>
<th>25th</th>
<th>50th</th>
<th>75th</th>
<th>95th</th>
<th>Sig.</th>
<th>Diff.</th>
<th>Effect size</th>
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<td>100</td>
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<td>.4</td>
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<td>56</td>
<td>67</td>
<td>80</td>
<td>94</td>
<td>18,380</td>
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<td>.136</td>
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<td>.4</td>
<td>39</td>
<td>56</td>
<td>67</td>
<td>78</td>
<td>94</td>
<td>2,057</td>
<td>.8</td>
<td>.429</td>
</tr>
<tr>
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<td>.1</td>
<td>36</td>
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<td>67</td>
<td>78</td>
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<td>.045</td>
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<td>.1</td>
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<td>69</td>
<td>83</td>
<td>97</td>
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<td>-.8</td>
<td>-.432</td>
</tr>
</tbody>
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All statistics are weighted by gender, enrollment status, and institutional size.

Standard deviation is a measure of the average amount the individual scores deviate from the mean of all the scores in the distribution.

The 95% confidence interval for the population mean is equal to the sample mean plus/minus 1.96 times the standard error of the mean.

A percentile is the point in the distribution of student-level benchmark scores at or below which a given percentage of benchmark scores fall.

Degrees of freedom used to compute the t-tests. Values vary for the total Ns due to weighting and the equal variance assumption.

Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.

Effect size is calculated by subtracting the comparison group mean from the school mean, and dividing the result by the pooled standard deviation.
## NSSE 2009 Benchmark Comparisons

### Detailed Statistics and Effect Sizes

**Seniors**

<table>
<thead>
<tr>
<th>Mean Statistics</th>
<th>Distribution Statistics</th>
<th>Reference Group Comparison Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5th</td>
<td>25th</td>
</tr>
<tr>
<td><strong>LEVEL OF ACADEMIC CHALLENGE (LAC)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HWS (N = 264)</td>
<td>64.6</td>
<td>11.6</td>
</tr>
<tr>
<td>Financial Comparison</td>
<td>63.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Carnegie Class</td>
<td>61.7</td>
<td>13.1</td>
</tr>
<tr>
<td>Selected LA Colleges</td>
<td>63.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Top 50%</td>
<td>60.1</td>
<td>13.7</td>
</tr>
<tr>
<td>Top 10%</td>
<td>62.8</td>
<td>13.4</td>
</tr>
</tbody>
</table>

### ACTIVE AND COLLABORATIVE LEARNING (ACL)

| HWS (N = 272)  | 57.5 | 15.9 | 1.0  | 33   | 43  | 57  | 67  | 86  | 3.22  | 7.3  | .000 .48 |
| Financial Comparison | 50.3 | 15.2 | 1.3  | 29   | 38  | 48  | 62  | 76  | 2.03  | 3.4  | .001 .21 |
| Carnegie Class | 54.1 | 16.2 | 1.1  | 29   | 43  | 52  | 67  | 81  | 2.03  | 3.4  | .001 .21 |
| Selected LA Colleges | 51.2 | 15.2 | 1.3  | 29   | 39  | 50  | 62  | 76  | 2.03  | 3.4  | .001 .21 |
| Top 50% | 55.7 | 16.9 | 1.0  | 29   | 43  | 57  | 67  | 86  | 2.03  | 3.4  | .001 .21 |
| Top 10% | 59.1 | 17.2 | 1.1  | 33   | 48  | 57  | 71  | 89  | 2.03  | 3.4  | .001 .21 |

### STUDENT-FACULTY INTERACTION (SFI)

| HWS (N = 264)  | 56.4 | 20.9 | 1.3  | 28   | 39  | 56  | 72  | 94  | 3.03  | 5.8  | .000 .28 |
| Financial Comparison | 50.6 | 21.2 | 1.4  | 17   | 33  | 50  | 67  | 89  | 2.03  | 3.4  | .001 .21 |
| Carnegie Class | 51.6 | 21.3 | 1.2  | 20   | 33  | 50  | 67  | 89  | 2.03  | 3.4  | .001 .21 |
| Selected LA Colleges | 49.9 | 20.5 | 1.4  | 17   | 33  | 50  | 61  | 89  | 2.03  | 3.4  | .001 .21 |
| Top 50% | 48.8 | 21.3 | 1.1  | 17   | 33  | 44  | 61  | 89  | 2.03  | 3.4  | .001 .21 |
| Top 10% | 54.1 | 22.0 | 1.2  | 22   | 39  | 56  | 72  | 94  | 2.03  | 3.4  | .001 .21 |

### ENRICHING EDUCATIONAL EXPERIENCES (EEE)

| HWS (N = 257)  | 58.3 | 16.6 | 1.0  | 30   | 48  | 60  | 71  | 83  | 2.03  | 3.4  | .001 .21 |
| Financial Comparison | 56.4 | 15.6 | 1.3  | 29   | 46  | 57  | 67  | 81  | 2.03  | 3.4  | .001 .21 |
| Carnegie Class | 53.4 | 17.5 | 1.1  | 22   | 42  | 54  | 66  | 81  | 2.03  | 3.4  | .001 .21 |
| Selected LA Colleges | 55.6 | 16.3 | 1.4  | 26   | 46  | 56  | 67  | 82  | 2.03  | 3.4  | .001 .21 |
| Top 50% | 48.0 | 17.8 | 1.0  | 18   | 36  | 48  | 61  | 77  | 2.03  | 3.4  | .001 .21 |
| Top 10% | 54.1 | 17.1 | 1.1  | 25   | 43  | 55  | 66  | 81  | 2.03  | 3.4  | .001 .21 |

### SUPPORTIVE CAMPUS ENVIRONMENT (SCE)

| HWS (N = 255)  | 65.8 | 15.2 | 1.0  | 39   | 56  | 67  | 75  | 92  | 2.03  | 3.4  | .001 .21 |
| Financial Comparison | 62.2 | 17.1 | 1.3  | 33   | 53  | 64  | 75  | 89  | 2.03  | 3.4  | .001 .21 |
| Carnegie Class | 63.8 | 17.9 | 1.1  | 33   | 53  | 64  | 75  | 89  | 2.03  | 3.4  | .001 .21 |
| Selected LA Colleges | 61.4 | 16.5 | 1.4  | 33   | 50  | 61  | 72  | 89  | 2.03  | 3.4  | .001 .21 |
| Top 50% | 64.1 | 18.8 | 1.1  | 33   | 53  | 64  | 78  | 94  | 2.03  | 3.4  | .001 .21 |
| Top 10% | 67.5 | 18.5 | 1.1  | 36   | 56  | 69  | 81  | 97  | 2.03  | 3.4  | .001 .21 |

---

**Notes:**

* All statistics are weighted by gender, enrollment status, and institutional size.

* Standard deviation is a measure of the average amount the individual scores deviate from the mean of all the scores in the distribution.

* The 95% confidence interval for the population mean is equal to the sample mean plus/minus 1.96 times the standard error of the mean.

* A percentile is the point in the distribution of student-level benchmark scores at or below which a given percentage of benchmark scores fall.

* Degrees of freedom used to compute the t-tests. Values vary for the total Ns due to weighting and the equal variance assumption.

* Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.

* Effect size is calculated by subtracting the comparison group mean from the school mean, and dividing the result by the pooled standard deviation.
# Contents

**Liberal Education Outcomes:**
*A Preliminary Report on Student Achievement in College*

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>ii</td>
</tr>
<tr>
<td>Preface</td>
<td>1</td>
</tr>
<tr>
<td>1. Liberal Education Outcomes: The Learning Every Student Needs</td>
<td>2</td>
</tr>
<tr>
<td>2. Support for Liberal Education Outcomes from Outside the Academy</td>
<td>3</td>
</tr>
<tr>
<td>3. Opportunities to Learn? Faculty Reports on Fostering Liberal Education Outcomes</td>
<td>4</td>
</tr>
<tr>
<td>4. Significant Gains? Students’ Own Reports on Liberal Education Outcomes</td>
<td>5</td>
</tr>
<tr>
<td>5. Significant Questions: National Assessments and Studies of Liberal Education Outcomes</td>
<td>6</td>
</tr>
<tr>
<td>6. Convincing Evidence: Campus Assessments of Student Gains Over Time</td>
<td>7</td>
</tr>
<tr>
<td>7. Unfinished Business: Liberal Education and Our Students’ Best Work</td>
<td>9</td>
</tr>
<tr>
<td>References and Notes</td>
<td>12</td>
</tr>
</tbody>
</table>
Acknowledgments

Many AAC&U staff members have contributed to this volume. We thank Gretchen Sauvey for locating many of the quotations from business and government sources, Darbi Bossman for her design and production work on earlier drafts of this publication, and Debra Humphreys and Shelley Johnson Carey for shepherding the process from early stages to final printed form. Many others have contributed through their critiques of and comments on early drafts. We thank them all for their interest and insights. We also thank the AT&T Foundation, the Christian Johnson Endeavor Foundation, and individual members of AAC&U’s board of directors for their support of the Liberal Education and America’s Promise initiative.

Carol Geary Schneider, President, AAC&U
Ross Miller, Director of Programs, Office of Education and Quality Initiatives, AAC&U

This publication was made possible by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the authors.
Liberal Education Outcomes and Student Achievement of Educational Excellence

This report on liberal education outcomes provides a wide-ranging and thought-provoking overview of student achievement in college. It examines a set of outcomes that are highly prized both by the academy and by employers, which include critical thinking, quantitative literacy, communication skills, ethical reasoning, and civic engagement. Drawing together research from diverse sources and studies, this report examines what we know—and how much we still need to find out—about student achievement on these and other important learning outcomes across the several years of college.

As we strive to make undergraduate education universally accessible and successful for all students, knowing how campuses are doing in achieving the most important learning outcomes is vital to the enterprise. The central finding of this report is that the most important outcomes of college study—outcomes widely regarded as key to economic opportunity and democratic citizenship—have been insufficiently addressed in reliable, cumulative assessments of students’ gains from their college studies. For all the value society places on the kinds of learning addressed in this report, we still lack persuasive evidence about how well today’s students are actually doing.

This report adds in two ways to the national effort to accelerate student learning and success. First, for policy leaders and campus faculty who want to provide new accountability for student achievement, the report identifies a set of learning outcomes that can frame and guide such efforts, not just in college, but from school through college. Second, the report points toward ways that campus faculty can both cultivate and assess student achievement of liberal education outcomes during the college years. While changes in assessment practices lag behind changes in our expectations for learning, we are moving toward a developed ability to document and share our successes through rich, authentic assessments.

Liberal Education and America’s Promise (LEAP)

This report has been prepared in concert with Liberal Education and America’s Promise: Excellence for Everyone as a Nation Goes to College (LEAP). LEAP is a long-term effort by the Association of American Colleges and Universities to turn a spotlight on the kinds of knowledge, skills, and values that are needed to prepare today’s students for an era of greater expectations in every sphere of life.

Providing Evidence

In partnership with scholars across the country, the LEAP initiative will document national and state progress in providing every college student—whatever his or her economic background—with outcomes that characterize a high-quality education. As the tables in this report reveal, we have a long way to go before we can say how well we are actually meeting this standard. But the outcomes addressed in this study provide a strong framework through which we can chart a course and mark our progress.

Carol Schneider, President, Association of American Colleges and Universities
Ross Miller, Director of Programs, Office of Education and Quality Initiatives, AAC&U
## Liberal Education Outcomes: The Learning Every Student Needs

The outcomes of liberal education have long been recognized as keys to success in learning, careers, and community life. Each of the liberal education outcomes addressed in this report has been widely embraced by the academic community as evidenced by written campus goals for student learning at hundreds of colleges and universities.

In 2004, a cooperative study by leaders at the nation’s institutional accreditors and by several higher education associations came to a **remarkable consensus on a few key outcomes that all students, regardless of major or academic background, should achieve during undergraduate study.** These outcomes, which were reported in *Taking Responsibility for the Quality of the Baccalaureate Degree* (AAC&U 2004), included those endorsed in AAC&U’s 2002 report, *Greater Expectations: A New Vision for Learning as a Nation Goes to College*. The recommended liberal education outcomes include:

### KNOWLEDGE of Human Culture and the Natural World:

- Science
- Social sciences
- Mathematics
- Humanities
- Arts

### INTELLECTUAL AND PRACTICAL SKILLS:

- Written and oral communication
- Inquiry, critical and creative thinking
- Quantitative literacy
- Information literacy
- Teamwork
- Integration of learning

### INDIVIDUAL AND SOCIAL RESPONSIBILITY:

- Civic responsibility and engagement
- Ethical reasoning
- Intercultural knowledge and actions
- Propensity for lifelong learning

---

> “The only education that prepares us for change is a liberal education. In periods of change, narrow specialization condemns us to inflexibility—precisely what we do not need. We need the flexible intellectual tools to be problem solvers, to be able to continue learning over time.”

— David Kearns, former CEO of Xerox Corporation

The charts that follow present evidence of broad support for the recommended liberal education outcomes and also provide a very preliminary national assessment of where higher education stands with respect to achieving these advanced learning outcomes. These data illustrate that **there is much that is not known about college student achievement**—perhaps because pointed questions about student learning have only recently been asked. Given the power that good assessments have to improve learning for all students, assessment practices should be expanded and improved on most campuses to guide parallel improvements in teaching, student effort, institutional support, and learning. Only then will we know that all of our graduates are ready to thrive and serve in a world characterized by constant change.
## Support for Liberal Education Outcomes from Outside the Academy

The chart below illustrates significant support from business and government leaders for the recommended liberal education outcomes. Given similar support for the outcomes within higher education and among accreditors, both regional and specialized (see *Taking Responsibility for the Quality of the Baccalaureate Degree*, pages 12-13), there is a strong case for conducting a campaign to engage students and the public with the importance of these outcomes.

<table>
<thead>
<tr>
<th>Liberal Education Outcome: Ability in or Habit of . . .</th>
<th>Business and government support for liberal education outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KNOWLEDGE</strong></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>“Executives will need a broad understanding of other cultures, other languages, history, science, and the arts, if they are to successfully navigate a rapidly changing future business environment.” see also note 13</td>
</tr>
<tr>
<td>Social sciences</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
</tr>
<tr>
<td><strong>INTELLECTUAL AND PRACTICAL SKILLS</strong></td>
<td></td>
</tr>
<tr>
<td>Written and oral communication</td>
<td>“Good writing skills and good public speaking skills are crucial to business success.” see also notes 6, 13</td>
</tr>
<tr>
<td>Inquiry, critical and creative thinking</td>
<td>“The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.” see also note 15</td>
</tr>
<tr>
<td></td>
<td>“We are reminded that the real challenge of today’s economy is not in making things but in producing creative ideas . . . .” see also note 18</td>
</tr>
<tr>
<td>Quantitative literacy</td>
<td>“Business wants new employees from the educational system who can do mathematics accurately, within benchmark time periods, and frequently with the use of a calculator . . . . In the world of work it means dealing with real, unpredictable, and unorganized situations where the first task is to organize the information and only then calculate to find an answer.” see also note 13</td>
</tr>
<tr>
<td>Information literacy</td>
<td>“Workers are expected to identify, assimilate, and integrate information from diverse sources; they prepare, maintain, and interpret quantitative and qualitative records; they convert information from one form to another . . . .” see also note 18</td>
</tr>
<tr>
<td>Teamwork</td>
<td>“Extracurricular activities and college projects that require teamwork can help students learn to value diversity and deal with ambiguity.” see also note 18</td>
</tr>
<tr>
<td>Integration of learning</td>
<td>“Reading, writing, and basic arithmetic are not enough. These skills must be integrated with other kinds of competency to make them fully operational.” see also notes 6, 14</td>
</tr>
<tr>
<td><strong>INDIVIDUAL AND SOCIAL RESPONSIBILITY</strong></td>
<td></td>
</tr>
<tr>
<td>Civic responsibility and engagement</td>
<td>“Educating youth for citizenship should be the job of all teachers, not just those who teach history, social studies, and civics.” see also note 16</td>
</tr>
<tr>
<td>Ethical reasoning</td>
<td>“Study of the liberal arts can lead to moral understandings that are invaluable to success in whatever one attempts in life.” see also note 17</td>
</tr>
<tr>
<td>Intercultural knowledge and actions</td>
<td>“The improved ability to think critically, to understand issues from different points of view, and to collaborate harmoniously with co-workers from a range of cultural backgrounds all enhance a graduate’s ability to contribute to his or her company’s growth and productivity.” see also note 1</td>
</tr>
<tr>
<td>Propensity for lifelong learning</td>
<td>“So the industry requires a workforce that can keep pace with technology—people who have the fundamental skills and an ability to continue learning . . . .[T]hey will need employees that can adapt, continue to learn, and keep pace with rapid developments.” see also notes 15, 17</td>
</tr>
</tbody>
</table>
If institutions and faculty do not provide opportunities for students to achieve these outcomes, the chance for high levels of student achievement are diminished. The Faculty Survey of Student Engagement (FSSE), a national survey of college faculty closely related to the National Survey of Student Engagement (NSSE), gathers data from faculty about campus learning goals and practices. Such data provides some insight into the kinds of learning being emphasized on the surveyed campuses. Analytical thinking, integration of learning, and computer use seem to gather the most uniform support. Support for outcomes in quantitative literacy as well as in individual and social responsibility is considerably lower.

<table>
<thead>
<tr>
<th>Liberal Education Outcome: Ability in or Habit of . . .</th>
<th>Faculty or institutional support for the outcome (see note 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE</td>
<td>(While FSSE asked faculty to identify the disciplinary area in which they taught, no FSSE question asked about faculty support for outcomes in specific disciplines.)</td>
</tr>
<tr>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>Social sciences</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
</tr>
<tr>
<td>INTELLECTUAL AND PRACTICAL SKILLS</td>
<td>Percent of faculty reporting that they structure courses so that students learn and develop in the following areas “Very much” or “Quite a bit”</td>
</tr>
<tr>
<td>Written and oral communication</td>
<td>• Writing clearly and effectively – 61% • Speaking clearly and effectively – 49%</td>
</tr>
<tr>
<td>Inquiry, critical and creative thinking</td>
<td>• Thinking critically and analytically – 93%</td>
</tr>
<tr>
<td>Quantitative literacy</td>
<td>• Analyzing quantitative problems – 44%</td>
</tr>
<tr>
<td>Information literacy</td>
<td>Percent of faculty reporting their institutions encourage students to use computers in their academic work “Very much” or “Quite a bit” – 91% How much emphasis do you place on making judgments about the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing the soundness of conclusions? “Very much” or “Quite a bit” – 73%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>• Working effectively with others – 55%</td>
</tr>
<tr>
<td>Integration of learning</td>
<td>How much emphasis do you place on synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships? “Very much” or “Quite a bit” – 85%</td>
</tr>
<tr>
<td>INDIVIDUAL AND SOCIAL RESPONSIBILITY</td>
<td>How important is it to you that undergraduates at your institution do community service or volunteer work? “Important” and “Very important” – 54%</td>
</tr>
<tr>
<td>Civic responsibility and engagement</td>
<td>How important is it to you that undergraduates at your institution study abroad? “Very important” or “Important” – 45%</td>
</tr>
<tr>
<td>Ethical reasoning</td>
<td>To what extent do you structure your selected course section so that students develop a personal code of values and ethics? “Very much” or “Quite a bit” – 50%</td>
</tr>
<tr>
<td>Intercultural knowledge and actions</td>
<td>To what extent do you structure your selected course section so that students develop an understanding of people of other racial and ethnic backgrounds? “Very much” or “Quite a bit” – 51%</td>
</tr>
<tr>
<td>Propensity for lifelong learning</td>
<td>No related FSSE question.</td>
</tr>
</tbody>
</table>

Opportunities to Learn? Faculty Reports on Fostering Liberal Education Outcomes
By questioning students about selected campus experiences during their current school year (typically as freshmen or as seniors) the National Survey of Student Engagement (NSSE) collects data on the extent to which individual campuses engage students in active forms of learning. NSSE data are useful for institutions as they reform campus programs and practices to increase engagement for all students.

Research has shown that high levels of engagement are strongly associated with improved student learning. The limitation of NSSE, however, is that it does not measure student learning directly—it collects student self-reports of learning. Large percentages of students report significant learning gains during their college years. Moreover, students report gains in all of the consensus liberal education outcomes (or in very closely associated NSSE categories). Some reported gains, however, such as those in the "civic responsibility and engagement" area, are significantly lower than might be desired.

### Significance Gains? Students’ Own Reports on Liberal Education Outcomes

<table>
<thead>
<tr>
<th>Liberal Education Outcome: Ability in or Habit of ...</th>
<th>Perceived gains in college learning from student self-reports—2004 NSSE Data: activity frequency OR percent of college seniors reporting how much college contributed to an outcome (see note 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>Acquiring a broad general education: Very little – 2%, Some – 12%, Quite a bit – 37%, Very much – 49%</td>
</tr>
<tr>
<td>Social sciences</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
</tr>
<tr>
<td>INTELLECTUAL AND PRACTICAL SKILLS</td>
<td></td>
</tr>
<tr>
<td>Written and oral communication</td>
<td>Written skills: Very little – 4%, Some – 19%, Quite a bit – 39%, Very much – 38%</td>
</tr>
<tr>
<td>Inquiry, critical and creative thinking</td>
<td>Thinking critically and analytically: Very little – 2%, Some – 11%, Quite a bit – 36%, Very much – 51%</td>
</tr>
<tr>
<td>No data gathered for creative thinking</td>
<td></td>
</tr>
<tr>
<td>Information literacy</td>
<td>Using computing and information technology: Very little – 4%, Some – 20%, Quite a bit – 36%, Very much – 41%</td>
</tr>
<tr>
<td>Integration of learning</td>
<td>Put together ideas or concepts from different courses when completing assignments: Never – 4%, Sometimes – 30%, Often – 42%, Very often – 24%</td>
</tr>
<tr>
<td>WORKED ON A PAPER OR PROJECT THAT REQUIRED INTEGRATING IDEAS: Never – 1%, Sometimes – 12%, Often – 38%, Very often – 49%</td>
<td>Worked on a paper or project that required integrating ideas: Never – 1%, Sometimes – 12%, Often – 38%, Very often – 49%</td>
</tr>
<tr>
<td>INDIVIDUAL AND SOCIAL RESPONSIBILITY</td>
<td></td>
</tr>
<tr>
<td>Civic responsibility and engagement</td>
<td>Contributing to the welfare of your community: Very little – 21%, Some – 34%, Quite a bit – 27%, Very much – 18%</td>
</tr>
<tr>
<td>Ethical reasoning</td>
<td>Developing a personal code of values and ethics: Very little – 14%, Some – 27%, Quite a bit – 31%, Very much – 28%</td>
</tr>
<tr>
<td>Intercultural knowledge and actions</td>
<td>Understanding people of other racial and ethnic backgrounds: Very little – 15%, Some – 33%, Quite a bit – 30%, Very much – 21%</td>
</tr>
<tr>
<td>Propensity for lifelong learning</td>
<td>Learning effectively on your own: Very little – 4%, Some – 19%, Quite a bit – 40%, Very much – 37%</td>
</tr>
</tbody>
</table>
5 Significant Questions: National Assessments and Studies of Liberal Education Outcomes

Nationally administered tests related to some liberal education outcomes exist, but to date, there have been no comprehensive studies of the full range of important liberal education outcomes. A 1995 report of college achievement (Barton and Lapointe 1995) used data primarily from The National Adult Literacy Study of 1992, contrasting the results of college graduates with others. The data, unfortunately, indicated that significant percentages of college graduates performed at quite low levels on basic literacy tasks. Other data sources in the report included Graduate Record Exams and the synthesis of research on college outcomes compiled by Pascarella and Terenzini (1991). While interesting, neither of these sources claimed to have data from nationwide representative samples of college students. The chart below shows us how spotty the attention to liberal education outcomes remains in 2005. It also raises some warning signs, since the data that have been collected—in such areas as reading/critical thinking or mathematics—appear to contradict students’ own rather positive perceptions of their learning gains from college.

<table>
<thead>
<tr>
<th>Liberal Education Outcome: Ability in or Habit of . . .</th>
<th>Performance-based assessment of learning from standardized test data: performance levels and changes over time (All data from ETS &amp; ACT are for 2003-04)²²</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>• ETS Academic Profile data show 8% of seniors “proficient” at level 3 math, up from 5% as freshmen. (See note 23 for level 3 description.) ACT CAAP math scores show a decline from freshman to senior year.</td>
</tr>
<tr>
<td>Social sciences</td>
<td>• ACT CAAP data for science show very small gains from freshman to senior year.</td>
</tr>
<tr>
<td>Mathematics</td>
<td>• No proficiency data for the social sciences, humanities, sciences, or arts.</td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
</tr>
<tr>
<td>INTELLECTUAL AND PRACTICAL SKILLS</td>
<td></td>
</tr>
<tr>
<td>Written and oral communication</td>
<td>• ETS Academic Profile data show 11% of seniors “proficient” at level 3 in writing. N.B.: The test does not actually require writing. Scores come from a multiple-choice exam.</td>
</tr>
<tr>
<td></td>
<td>• No data for oral proficiency.</td>
</tr>
<tr>
<td></td>
<td>• See note 24 for descriptions of writing levels of the Academic Profile. See note 25 for information about the Collegiate Learning Assessment, a new writing and thinking assessment.</td>
</tr>
<tr>
<td>Inquiry, critical and creative thinking</td>
<td>• ETS Academic Profile data show only 6% of seniors at “proficient” level in critical thinking, 77% “not proficient.”</td>
</tr>
<tr>
<td></td>
<td>• ACT CAAP data shows less than one standard deviation gain in critical thinking from freshman to senior year.</td>
</tr>
<tr>
<td></td>
<td>• No national data for creative thinking.</td>
</tr>
<tr>
<td>Quantitative literacy</td>
<td>No national data found except as math assessment, national inferences drawn from NAEP and SAT data, and anecdotal evidence from the workplace, etc.²⁶</td>
</tr>
<tr>
<td>Information literacy</td>
<td>No national data found.</td>
</tr>
<tr>
<td>Teamwork</td>
<td>No national data found.</td>
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<tr>
<td>Integration of learning</td>
<td>No national data found.</td>
</tr>
<tr>
<td>INDIVIDUAL AND SOCIAL RESPONSIBILITY</td>
<td>No national data found. Related research available.²⁷</td>
</tr>
<tr>
<td>Civic responsibility and engagement</td>
<td>No national data found. Related research available.²⁸</td>
</tr>
<tr>
<td>Ethical reasoning</td>
<td>No national data found.</td>
</tr>
<tr>
<td>Intercultural knowledge and actions</td>
<td>No national data found. Related research available.²⁸</td>
</tr>
<tr>
<td>Propensity for lifelong learning</td>
<td>No national data found.</td>
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Convincing Evidence: Campus Assessments of Student Gains Over Time

Whether one is interested in showing that students have achieved at a high level or that an institution “adds value,” developing and gathering evidence of student learning is required. For liberal education outcomes, evidence should vividly depict the rich and complex nature of student accomplishment as knowledge and skills are built over time and across disciplines. Since accreditors are now persistent in their demands for direct evidence of student learning related to an institution’s chosen learning goals, a system to collect and analyze the evidence should be created. Such systems will necessarily vary from campus to campus.

“Employ multiple measures, over time” and “assess to improve learning” are maxims of good assessment practice. As campus practices include more complex and challenging assignments, community placements, internships, student research, and other engaging practices, the opportunities for students to demonstrate complex capacities will be increased and distributed over several years. The same data from milestone and capstone assessments that provide evidence of student learning can contribute greatly to curricular and institutional improvement.

Promising practices encountered on dozens of campuses show the remarkable robustness of existing efforts to promote multiple outcomes of liberal learning. For example, learning communities can promote inquiry, communication skills, teamwork, or integration equally well. Assignments completed for learning communities can be assessed to show students’ level of accomplishment on each of these outcomes.
Lingering institutional resistance to the assessment of student learning might be reduced if the work already required in many programs, including assignments and exams, were used for more than simply generating a grade. Analysis and aggregation of class-embedded assessments can vividly demonstrate progress toward program- and institution-wide goals. It is important to note that meaningful judgments of significant achievement, regardless of field, require sophisticated expert assessment, more usefully conveyed to the learner as a narration or demonstration than as a number or grade. Such assessment can suggest ways to improve the multiple, complex outcomes of a field in ways that are similar to how experts critique and revise their own advanced work. A campus with a “culture of assessment” would not only use such feedback to assess and improve student learning, but would also teach students the critical skills and discipline-specific vocabulary needed to become proficient self-evaluators, a capacity vital for achieving at high levels.

Two decades of struggle with assessment have taught some lessons that should be honored as campuses choose and create ways to collect convincing evidence of student learning.

- Course-embedded assessments can be used for individual-, course-, program-, and institution-level assessment of student learning through appropriate analysis and aggregation. Selected assignments can be designated within major courses to serve as threshold, milestone, or capstone assessments. Such assignments can serve as assessments of both general and major-specific knowledge and skills when scored using appropriate methods and personnel.

- Individual student learning can be tracked constantly on campuses through course-level assessments, particularly if faculty learn about good formative and summative assessment practices. Administrative support for faculty development is important.

- Student development takes time so representative samples of student work, gathered at carefully chosen points in a curriculum, can be sufficient to create a program or institutional picture of student learning. Choose the sampling points after analyzing the curriculum to find points at which there is agreement that students will likely have had sufficient opportunity to learn what is being assessed.

- Given that evaluation is the highest level of the cognitive domain, students themselves should be challenged to learn assessment techniques in which they assess work in exactly the same ways used by experts in the particular domain. Not only does this raise the level of student learning, it can also provide cycles of self- and peer-formative assessment, relieving faculty of part of the formative assessment workload.
The basic concepts of teaching, learning, and assessment are simple, but the analysis and work involved are very difficult. To meet our society’s greater expectations for liberal education outcomes, institutions need to set clear goals, establish programs and lines of responsibility for achieving the goals, teach creatively and effectively, and assess to ensure that all students are learning. Within the college or university context, a comprehensive learning and assessment framework should include several powerful elements.

1. **Orientation** should be provided for the student during the first year to communicate repeatedly the institution’s expectations for important learning outcomes. Diagnostic assessment of each student’s demonstrated accomplishment should be made and expected further progress in relation to the outcomes stated.

2. A **plan of study**, constructed with the student’s advisor, should clearly connect the expected outcomes to the institution’s required studies, the student’s elective choices, and the major field(s).

3. **Milestone assessments**, completed as students progress in their studies in both general education and the major, should be tied to key outcomes and used to provide timely feedback to the student, his or her advisor, and programs most closely associated with the outcomes. These assessments should be aligned between two-year and four-year campuses so that successful transfers are possible; the assessments can be compiled in a portfolio that demonstrates each student’s progress.

4. **Capstone or culminating experiences** in the major field(s) are experiences in which the student actively demonstrates and is assessed for his or her cumulative accomplishments in liberal education. The capstone or culminating experiences are critical to this framework because they provide a designated place in the regular curriculum where students do their best, most advanced work. The capstone should be conceived as both a culminating integrative experience and as the centerpiece of the effort to assess sophisticated learning. Even capstone experiences seemingly with a primary focus on major-area assessment can be assessed for multiple liberal education outcomes. Such assessments can come from “second scorings” completed inside or outside of a department or program by institution-wide teams looking for evidence of graduation-level liberal learning outcomes such as writing skill, integration, quantitative literacy, or ethical perspectives.

IS THERE A ROLE FOR STANDARDIZED TESTS?

Given the new emphasis on standardized testing in the schools, many observers are asking whether such testing should now become the gold standard for quality assessment in higher education. On educational grounds, AAC&U has taken a stand against the view that standardized tests are the best way to assess students’ learning gains and level of accomplishment over their several years in college. AAC&U does believe, however, that standardized tests can supplement curriculum-embedded assessments when they are used with appropriate professional standards and cautions.

Why not use standardized tests of the liberal education outcomes to assess the quality of student learning in college? By its nature, a standardized test explores what all test takers know in common. But the genius of American higher education is that it helps students develop many different kinds of expertise, across hundreds of disciplinary and interdisciplinary fields. While liberal education outcomes can be described in general terms, in practice, competencies such as communication, critical inquiry, teamwork, or ethical reasoning take very different forms in different fields. Biologists use quite different inquiry methods than historians; engineers use different forms of teamwork and communication than teachers.

For these reasons, the best evidence about students’ level of achievement on liberal education outcomes will come from assessment of students’ authentic and complex performances in the context of their most advanced studies: research projects, community service projects, portfolios of student work, supervised internships, etc. Institutions can and should use a common framework of liberal education outcomes to report externally on students’ level of accomplishment, but they should help the public understand that the standards for advanced accomplishment take different forms in different fields. The key accountability question to ask of campuses is whether they currently expect all their students to undertake complex projects and capstone assignments that are assessed for advanced liberal education outcomes.

With this said, standardized testing can play a useful supplementary role in the assessment of student learning. High quality pre-collegiate tests, used in concert with other evidence, can help institutions assess whether students are ready to undertake college-level work in selected areas. To the extent that standardized tests move away from the multiple-choice only format to include questions eliciting more “authentic” responses like essays and analytical narratives, they may produce insights into more complex learning. They can provide a regional or national comparison to results of local assessments, help local scorers avoid having “halo” effects creep into their process, and contribute significantly to fulfilling the “multiple measures” criterion.
**LIBERAL EDUCATION OUTCOMES—ACROSS THE CURRICULUM**

**What, When, How, and How Do We Know?**

(concepts from Our Students’ Best Work, AAC&U 2004)

<table>
<thead>
<tr>
<th>What?</th>
<th>KNOWLEDGE OF HUMAN CULTURE &amp; THE NATURAL WORLD</th>
<th>INTELLECTUAL &amp; PRACTICAL SKILLS</th>
<th>INDIVIDUAL &amp; SOCIAL RESPONSIBILITY</th>
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<tbody>
<tr>
<td></td>
<td>Science</td>
<td>Written and Oral Communication</td>
<td>Civic Responsibility and Engagement</td>
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<td></td>
<td>Social sciences</td>
<td>Inquiry, Critical and Creative Thinking</td>
<td>Ethical Reasoning</td>
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<td></td>
<td>Mathematics</td>
<td>Quantitative Literacy</td>
<td>Intercultural Knowledge and Actions</td>
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<td>Humanities</td>
<td>Information Literacy</td>
<td>Propensity for Lifelong Learning</td>
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<td></td>
<td>Arts</td>
<td>Teamwork</td>
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<td>Integration of Learning</td>
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<tr>
<th>First-Year Experiences</th>
<th>How: Orientation should be provided for the student during the first year about the institution’s expectations for important learning outcomes</th>
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<td></td>
<td>A plan of study, constructed with the student’s advisor, should clearly connect the expected outcomes to the student’s choice of courses and major field(s). Learning goals, experiences, resources, and assessments should be aligned for effective learning.</td>
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<tr>
<td></td>
<td>How do we know? Diagnostic assessment of each student’s demonstrated accomplishment and expected further progress in relation to these outcomes should be made.</td>
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<tr>
<th>Focused Studies, Major/Minor(s)</th>
<th>How: Plan of study continues, revised as needed</th>
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<td></td>
<td>How do we know? Milestone assessments as students progress in their studies in both general education and the major should be tied to key outcomes with timely feedback to the student and his or her advisor. These assessments should be aligned between two-year and four-year campuses so that successful transfers are possible, and they can be compiled in a portfolio that demonstrates each student’s progress.</td>
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<th>Advanced Integrative and Culminating work</th>
<th>How: Plan of study continues, revised as needed</th>
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<td></td>
<td>How do we know? Capstone or culminating experiences in the major field(s) are experiences in which the student actively demonstrates and is assessed for his or her cumulative accomplishments of the college career. The capstone or culminating experiences are a critical element of this framework because they provide a designated place in the regular curriculum where students do their best work. The capstone should be conceived as both a culminating integrative experience and as the centerpiece of the effort to assess sophisticated learning.</td>
</tr>
</tbody>
</table>
References


Notes

Note 1: Paul Dillon: “Executives will need a broad understanding of other cultures, other languages, history, science, and the arts, if they are to successfully navigate a rapidly changing future business environment.” “What Business Expects from Higher Education,” The College Board Review 164 (1992): 24.

Note 2: Paul Dillon: “Graduates entering the white-collar work force are going to have to learn how to communicate effectively, both verbally and via the written word. Good writing skills and good public speaking skills are crucial to business success.” “What Business Expects from Higher Education,” The College Board Review 164 (1992): 24.

Note 3: Goals 2000: Educate America Act: “Adult Literacy And Lifelong Learning. (A) By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship…. (B) The objectives for this goal are that…(v) the proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially.” Goals 2000: Educate America Act, HR 1804, 103rd Cong., 2nd sess. (January 24, 1994). www.ed.gov/legislation/GOALS2000/TheAct/index.html.

Note 4: David Kearns: “We are reminded that the real challenge of today’s economy is not in making things but in producing creative ideas. Today, the race goes not just to the swift, but to the inventive, the resourceful, the curious. And that is what a liberal education is all about.” Introduction to Reclaiming the Legacy: in defense of liberal education, by Denis Doyle (The Council for Basic Education, 2000), vi.

Note 5: C. J. Shroll (National Coalition for Advanced Manufacturing): “Business wants new employees from the educational system who can do mathematics accurately, within benchmark time periods, and frequently with the use of a calculator…. The second important aspect of mathematics or quantitative literacy I imagine is included in the broad area of ‘problem solving’…. In the world of work it means dealing with real, unpredictable, and unorganized situations where the first task is to organize the information and only then calculate to find an answer.” interview, “Interviews about Quantitative Literacy” (The College Board Online, 1999). www.stolaf.edu/other/ql/intv/html.

Note 6: U.S. Department of Labor: “Workers are expected to identify, assimilate, and integrate information from diverse sources; they prepare, maintain, and interpret quantitative and qualitative records; they convert information from one form to another and are comfortable conveying information, orally and in writing as the needs arises.” Secretary’s Commission on Achieving Necessary Skills (SCANS), What Work Requires of Schools, June 1991. 11.

Note 8: U.S. Department of Labor: “Reading, writing, and basic arithmetic are not enough. These skills must be integrated with other kinds of competency to make them fully operational.” Secretary’s Commission on Achieving Necessary Skills (SCANS). What Work Requires of Schools, June 1991, 9.

Note 9: John Glenn and Leslie Hergert: “We need to teach youth that their contributions are needed not only in times of crisis, but as a regular and ongoing part of life in a democratic country. Educating youth for citizenship should be the job of all teachers, not just those who teach history, social studies, and civics.” “The civic missions of schools,” In Letters to the next president, ed. C. Glickman, 201-206 (New York and London: Teachers College Press, 2004).

Note 10: Peter Fellowes, president of Fellowes manufacturing: “The study of the liberal arts, however, offers more than training in the skills of critical thinking and effective communication. Study of the liberal arts can lead to moral understandings that are invaluable to success in whatever one attempts in life.” From Books to Business: the Value of a Liberal Education, The Chronicle of Higher Education 49, no. 25 (February 28, 2003) B16.

Note 11: Business-Higher Education Forum: “The benefits that accrue to college students who are exposed to racial and ethnic diversity during their education carry over into the work environment. The improved ability to think critically, to understand issues from different points of view, and to collaborate harmoniously with co-workers from a range of cultural backgrounds all enhance a graduate’s ability to contribute to his or her company’s growth and productivity.” Investing in People: Developing All of America’s Talent on Campus and in the Workplace (Business-Higher Education Forum, 2002) 14.

Note 12: David Kearns: “So the industry requires a workforce that can keep pace with technology—people who have the fundamental skills and an ability to continue learning…. [T]hey will need employees that can adapt, continue to learn, and keep pace with rapid developments.” Introduction to Reclaiming the Legacy: in defense of liberal education, by Denis Doyle (The Council for Basic Education, 2000), v.

Note 13: The National Association of Manufacturers: “The major areas of concern have shifted from technology skills back to the fundamentals, with basic employability skills cited as the number one deficiency…. Poor reading, writing, math and communication skills were also significant concerns.” Jerry Jasinowski, Introduction to The skills gap 2001: Manufacturers confront persistent skills shortages in an uncertain economy (The National Association of Manufacturers, 2001).

Note 14: The National Skills Standards Board: “In a high performance work organization, academic, occupational, and employability skills are not independent of one another. It is the integration of all three that is necessary to function effectively.” Mission statement.

Note 15: David Kearns: “We need the flexible intellectual tools to be problem solvers, to be able to continue learning over time. In such periods of change, it’s not simply what you know that counts, but the ability to use what you know. In this way, knowledge is power—the ability to use specialized knowledge as you adapt to new requirements.” Introduction to Reclaiming the Legacy: in defense of liberal education, by Denis Doyle (The Council for Basic Education, 2000) vi.

Note 16: Business Strengthening America: "These companies share a core belief: an increased commitment to volunteering and civic responsibility builds a stronger society and will enable businesses to ‘do well by going good’ because it deepens employee, consumer, and shareholder relationships." Campaign Overview, www.bsanetwork.org/about.html.


Note 18: Roger Herman (CEO of The Herman Group): “In the years ahead we’ll need more and more workers who can think, collaborate, create, solve problems, communicate, and lead. Demand will be high for people who have learned how to learn, who have strong, multidisciplinary education; and who can adapt easily to whatever comes their way.” “The Case for Liberal Arts,” The Futurist 34, no. 4 (July-August 2000): 16.

Note 19: Data are from the 2004 Faculty Survey of Student Engagement (FSSE) for all surveyed colleges and universities. (FSSE poses questions to college faculty to find the degree to which faculty expect students to engage in educational practices known to be linked to improved learning and personal development.) Some questions were paraphrased or created by combining stems and specific prompts. For general information see www.indiana.edu/~nsse/fsse/index.htm.

Note 20: National data for college seniors taken from question 1 and question 11 of the 2004 NSSE. Question 1 asks: “In your experience at your institution during the current school year, about how often have you done each of the following?” Question 11 asks: “To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?” All data except for “Integration” are taken from question 11. The 2004 NSSE gathered data from 114,000 college seniors.
The Diverse Democracy Project investigated ways that institutions prepare students for life in our diverse democracy. Project findings argue for intentional campus actions to create engaged, informed, and responsible citizens. Diversity experiences are seen as central to this learning. While suggestive of ways to advance this outcome, this project was not a national measure of the outcome. See: Hurtado, S. 2003. Preparing college students for a diverse democracy: Final report to the U.S. Department of Education, OERI, Field Initiated Studies Program. Ann Arbor, MI: Center for the Study of Higher and Postsecondary Education, available as a downloadable pdf at www.umich.edu/~divdemo/index.html.

Note 22: Data for ACT CAAP tests were supplied directly to the authors from ACT. Data from Educational Testing Service (ETS) are available on-line at www.ets.org/hea/acpro/compare.html

Note 23: At ETS level 3 for math, a student can:
- Solve word problems that would be unlikely to be solved by arithmetic; the answer choices are either algebraic expressions or are numbers that do not lend themselves to back-solving.
- Solve problems involving difficult arithmetic concepts such as exponents and roots other than squares and square roots and percent of increase or decrease.
- Generalize about numbers, e.g., identify the values of $(x)$ for which an expression increases as $(x)$ increases.
- Solve problems requiring an understanding of the properties of integers, rational numbers, etc.
- Interpret a graph in which the trends are to be expressed algebraically or in which one of the following is involved: exponents and roots other than squares and square roots, percent of increase or decrease.
- Solve problems requiring insight or logical reasoning.

Note 24: At ETS level 3 in writing, a student can:
- Discriminate between appropriate and inappropriate use of parallelism
- Discriminate between appropriate and inappropriate use of idiomatic language
- Recognize redundancy
- Discriminate between correct and incorrect constructions
- Recognize the most effective revision of a sentence

Note 25: Performance data from the Collegiate Learning Assessment indicate (1) that attending college improves scores on the CLA critical thinking, analytic reasoning, and written communication tasks, and (2) that these outcomes, while strongly correlated to incoming student achievement levels, are influenced by the particular college that the student attends, with some schools doing “better than expected,” an indication that there are better and worse ways to help students learn these skills.

"We explored the ‘value added’ of the college experience by analyzing both within- and between-school effects. The within-school effects analysis found that, after controlling on the students’ SAT scores, upperclass students (juniors and seniors) tended to earn higher scores on our measures than did underclass students. This suggests that the measures capture institutional effects (recognizing that learning occurs both in and out of the classroom). The correlation between years in school and test scores was statistically significant. A school’s average score on the CLA measures also correlated highly with the school’s average SAT score ($r = 0.90$), yet we found statistically significant institutional effects after controlling on SAT.

The between-school effects analysis examined whether the students at some schools were, on average, scoring higher or lower than would be expected on the basis of their mean SAT scores. Thus, the amount of education a student receives is related to the kinds of skills we assessed, and these relationships transcend the abilities tested by college entrance exams. We use this approach as a means to quantify ‘value added.’ (from A New Field of Dreams: The Collegiate Learning Assessment Project by Roger Benjamin, president, and Marc Chun, research scientist, both of RAND Corporation’s Council for Aid to Education in Peer Review, Summer 2003. Available at www.aacu.org/peerreview/pr-su03/pr-su03feature2.cfm

Note 26: The National Assessment of Educational Progress, sometimes called “the nation’s report card,” periodically gathers, evaluates, and reports on nationally representative samples of student work in reading, mathematics, science, writing, U.S. history, civics, geography, and the arts. Since 1969, NAEP has studied achievement of students in grades 4, 8, and 12 according to a schedule and framework developed by the National Assessment Governing Board. For details see http://nces.ed.gov/nationsreportcard.

Note 27: The Diverse Democracy Project investigated ways that institutions prepare students for life in our diverse democracy. Project findings argue for intentional campus actions to create engaged, informed, and responsible citizens. Diversity experiences are seen as central to this learning. While suggestive of ways to advance this outcome, this project was not a national measure of the outcome. See: Hurtado, S. 2003. Preparing college students for a diverse democracy: Final report to the U.S. Department of Education, OERI, Field Initiated Studies Program. Ann Arbor, MI: Center for the Study of Higher and Postsecondary Education, available as a downloadable pdf at www.umich.edu/~divdemo/index.html.

Note 28: The impact of intercultural experiences on student learning and development have been shown in multiple studies, many of which are summarized in Milem, Jeffrey F., Mitchell J. Chang, and Anthony Lising Antonio. 2005. Making diversity work on campus: A research-based perspective. Washington, DC: Association of American Colleges and Universities. Available at www.aacu.org/inclusive_outcomes.

AAC&U is the leading national association concerned with the quality, vitality, and public standing of undergraduate liberal education. Its members are committed to extending the advantages of a liberal education to all students, regardless of academic specialization or intended career. Founded in 1915, AAC&U now comprises 1,000 accredited public and private colleges and universities of every type and size.

AAC&U functions as a catalyst and facilitator, forging links among presidents, administrators, and faculty members who are engaged in institutional and curricular planning. Its mission is to reinforce the collective commitment to liberal education at both the national and local levels and to help individual institutions keep the quality of student learning at the core of their work as they evolve to meet new economic and social challenges.

Information about AAC&U membership, programs, and publications can be found at www.aacu.org.
Robert J. Sternberg, the new provost of Oklahoma State University, has just finished a five-year term as dean of arts and science at Tufts University, during which time he had the opportunity to test out his ideas about non-cognitive evaluation of applicants. Sternberg has long argued that standardized testing and high school grades -- while appropriate considerations in determining who gets into which colleges -- tell only part of the story. At Tufts, he helped add optional admissions questions designed to measure creativity and other qualities that might well make someone an outstanding college student. In a new book -- *College Admissions for the 21st Century* (Harvard University Press) -- Sternberg discusses the experiment at Tufts and why it shows, in his belief, the inadequacy of traditional college admissions tools. In an e-mail interview, in which he stressed that the book reflects his personal views as a scholar and not the views of Tufts, he discussed the work.

Q: For years, some colleges have boasted about having more creative essay questions on applications, or more insightful interviewers. Why do you think the "Kaleidoscope" system at Tufts goes beyond those sorts of application methods?

A: I should explain up front that Kaleidoscope consists of a system for evaluating applications to college that involves essays and other performances and products. It has been used at Tufts for the past five years (since my second year as dean of the School of Arts and Sciences there). Although I conceived of it, it was implemented by the terrific dean of admissions at Tufts, Lee Coffin, and his wonderful staff.

It is admirable that many colleges recognize the need to go beyond traditional measures such as G.P.A. and standardized test scores in admissions processes. The Kaleidoscope Project has three features that are perhaps distinctive. These features emanate from the view that the purpose of college/university education is to produce the leaders of tomorrow who will make a positive, meaningful, and enduring difference to the world.

First, the questions are based on a theory of leadership, WICS -- wisdom, intelligence, creativity, synthesized -- according to which positive leaders need a synthesis of (a) creative skills and attitudes in order to generate new ideas; (b) analytical skills and attitudes in order to ensure that the ideas are good ones; (c) practical skills and attitudes to implement their ideas and to persuade others of the value of these ideas; and (d) wisdom-based skills and attitudes to ensure that the ideas help to achieve a common good, over the long and short terms, through the infusion of positive ethical values. So the questions in Kaleidoscope are designed to measure these creative, analytical, practical, and wisdom-based skills and attitudes. The WICS theory is an extension of my theory of successful intelligence, which I have spent many years validating in empirical research.

An example of a creative question would be to write a story with a title such as "The End of MTV" or to draw an advertisement for a new product or service or to submit a creative video via YouTube. An example of an analytical item would be to state one's favorite book and why it is one's favorite book. An example of a practical item would be to explain how one convinced a friend of an idea the friend did not initially accept. And an example of a wisdom-based item would be to tell how one would take a current passion and transform it later to serve the common good.

Second, although responses to the questions are rated holistically, they are based on rubrics. The admissions raters were trained to use specific criteria in assessing responses. For example, creative strength is assessed in terms of novelty, quality, and task...
appropriateness; analytical strength is assessed in terms of organization, quality of analysis, logic, and balance.

Third, we have done statistical validation on the predictive validity of the evaluations of the responses for predicting success in college. In this way, we can see which questions work well and which do not. Please note that the Kaleidoscope ratings of creative, analytical, practical, and wisdom-based skills are based on the whole application, not just on essays, drawings, and other products that we newly placed on the application.

Q: What do you see as the main lessons of your work at Tufts with alternative admissions?

A: I believe there are four main lessons.

First, it is possible to measure the qualities assessed in Kaleidoscope in a way that is practical and that is enjoyable for students; the students feel the essays and other products tell the college things that otherwise the college would not know about them. Second, we found that the responses predicted both academic and non-academic success and, moreover, these predictions were incremental over (on top of) those of high school standardized test scores and G.P.A.s. Third, evaluations of responses to the questions did not show significant differences between ethnic groups. In other words, our measures increase prediction of success but do not show adverse impact as a function of ethnic identity. Fourth, we found that the measures are cost-effective. As a dean, I found it relatively easy, in collaboration with the advancement office, to raise money for additional admissions personnel to score the assessments.

Our donors tended to be alumni and alumnae who themselves were leaders but whose test scores and G.P.A.s did not necessarily reflect their full range of leadership skills. The donations made it possible to fund the project without taking away resources that the university needed for other endeavors.

Q: How important are non-traditional measures to efforts to recruit and enroll more minority students at elite colleges?

A: Traditional standardized tests show rather substantial ethnic-group differences. Kaleidoscope measures do not. The reason, I believe, based on our research, is that members of different ethnic and socioeconomic groups have different prototypical conceptions of what it means to be smart and often need different skills to adapt to their environments as they grow up. For example, growing up in a challenging inner-city urban environment requires creative and practical survival skills that growing up in an upper-middle-class environment does not require. Growing up in an upper-middle-class environment may provide more opportunities for developing abstract analytical skills.

So members of different groups develop, on average, different skills, and Kaleidoscope assesses many of them, whereas traditional standardized tests assess primarily memory and analytical skills, but not creative, practical, or wisdom-based ones. That is, the traditional tests assess skills in which members of higher socioeconomic strata tend to have more of an advantage. I should add that Kaleidoscope measures are not designed to replace traditional assessments, but to supplement them.

Q: Many critics of traditional admissions systems have called on colleges to stop requiring the SAT or ACT. You haven't, and Tufts added the alternative system on top of a relatively traditional one for competitive institutions. Why don't you favor simply replacing all of the traditional testing measures?

A: Standardized testing such as that provided by the SAT and ACT was originally introduced to enhance fairness, not to diminish it. Different high schools grade in different ways, have students of different levels of academic skill, and provide different qualities of instruction, and so the idea was to provide a standardized measure that would be fair across all these different educational institutions. But three things did not go as planned by the original creators of the tests. First, the tests were created at a time when most of the applicants to college were middle- to upper-middle-class, white, and male. There was nowhere near the diversity of applicants taking the SAT and ACT as is the case today. Second, the originators did not realize that scores would correlate highly with socioeconomic status, to the point that they would become near (but by no means complete) proxies for such status. Third, the originators probably did not realize that the creativity they showed in developing the tests would not be well matched by their successors -- the changes that have been introduced in the roughly hundred years since these tests started have been largely cosmetic, and psychometrically, the tests are very similar in their properties to the original tests.

Those who work for testing organizations might see this constancy of measurement as a positive thing. But imagine if other technologies, such as in telecommunications or medicine, were largely stuck a century in the past! The problem, as I see it, is that the skills measured by traditional tests are quite narrow and do not adequately reflect the full range of skills needed for college and life success.

That said, memory and analytical skills are important and so if these skills are not to be measured by standardized tests (because the
tests are not used by a particular institution), then it is important that they be measured in some other valid way. In any case, I think the major problem with standardized tests has never been the tests themselves so much as their overinterpretation. Test scores can be useful if kept in perspective (as I believe they are at Tufts as well as at Oklahoma State).

It is easy to blame the testing companies, but really the problem is systemic: Our society as a whole has to move beyond narrow conceptions of the skills needed for life success. It is really something of a tragedy. For example, the meltdown on Wall Street and in the world in 2008 was in part a result of the work of people from highly prestigious colleges with outstanding standardized tests scores whose analytical skills were not matched by comparable levels of wisdom. Do we really want to select for people who will use their outstanding analytical skills to enrich themselves at others’ expense? I believe that, to some extent, we as a society have done so by our vast overemphasis on narrow test scores and our gross underemphasis on wisdom and ethical qualities.

Q: Much of the talk about admissions reforms comes at elite universities or small liberal arts colleges. Many public universities, in contrast, use fairly straightforward admissions systems involving some combination of grades and test scores. Does Kaleidoscope belong at these institutions? And can they afford this kind of very personal evaluation of students?

A: Oklahoma State, where I am now, has questions on its application that measure leadership skills and these are being refined for next year. That said, I think that public universities, or at least land-grant publics, such as where I am now, have a somewhat different mission from elite private schools. When I was at Yale and then at Tufts, our hope was that we could be as selective as possible. The goal was to select the very strongest students, and Kaleidoscope provided a way to broaden the selection process so as better to select the optimal leaders of tomorrow.

At a land-grant institution, access looms much larger. The institution wants to provide access to as many qualified students as possible, especially from within-state. So having a low selection ratio does not have the same meaning; our goal is to provide opportunity, not to exclude students from it. There is much more emphasis on value added. So at Oklahoma State, for example, we would have great pride in taking students who do not have sky-high grades or test scores and then providing an environment where, despite this fact, we could help them become outstanding leaders of tomorrow. Of course, we want to ensure that admitted students are qualified to do the work, and so we use traditional academic measures. But our mission is to serve the state (and the world), and it is not clear that we best would do so by rejecting as many students as possible. Doing so might improve our ratings in one magazine or another, but would actually take us in a direction that is contrary to our land-grant mission of access. So Kaleidoscope is still relevant; all schools should select tomorrow's positive leaders. But it is useful in a different way, within the context of achieving access more than selectivity.

— Scott Jaschik

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Tweaking the Methodology
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*U.S. News & World Report* will release its annual college rankings today -- and there are no real surprises at the top, where the same colleges and universities that have occupied the upper spots will go right on doing so. But the magazine has tweaked its methodology -- slightly lessening the emphasis on and broadening the inputs for the much-criticized “reputational” calculation.

That portion of the methodology now counts for 22.5 percent of institutional scores for “national” colleges and universities, down from 25 percent. (There isn’t a change for the rest of colleges.) Further, the ratings of college presidents (or whomever they ask to fill out the form) will count for only 15 percent. The other 7.5 percent of the reputational total will come from a national survey of high school guidance counselors (selected because they are at high schools that *U.S. News* considers to be the best public high schools in the country).

The magazine is giving the extra 2.5 percentage points to another category -- graduation rate performance -- that judges colleges on whether they exceed the graduation rates that might be expected of their students. This portion of the methodology -- now worth 7.5 percent of the total -- is less controversial than some other parts of the formula because it focuses on what colleges do with the students they enroll. Many educators say that other parts of the formula reward colleges for having a lot of money and/or serving the best-prepared students.

While many educators question the value of rankings altogether, the reputational portion of *U.S. News* (still the most significant factor in the methodology, even after the change) has been subject to criticism even from those who like rankings.

For years, critics have noted that such rankings tend to reward institutions that used to be strong (even if they aren’t as strong now) and that many presidents end up ranking institutions about which they know relatively little. Many colleges spend large sums of money sending materials to other presidents to try to influence them, and last year, *Inside Higher Ed* documented that some presidents appear to give unreasonably low rankings to their competitors and in some cases to all colleges but their own.

For several years, some critics have tried to encourage colleges to skip the reputational surveys as a way of drawing attention to their questionable value. This year, 48 percent of all colleges submitted the forms, the same percentage as last year. Among liberal arts colleges, 47 percent of institutions completed the survey, up one percentage point from last year. The figures have been relatively stable for the last two years – suggesting an apparent end to an earlier decline. The rate was as high as 67 percent before criticism stepped up.

While the rate among college presidents has stabilized, the rate among guidance counselors is quite low: only 21 percent. Robert Morse, who leads the rankings project at *U.S. News*, said that the guidance counselors were added because they have said for years that "they have something to add" to the rankings. Asked whether 21 percent was too low to be valid, especially when many counselors would most likely rank only some colleges and universities, he said that wasn't the case and that all colleges were ranked by enough counselors for the survey to be valid.

While the magazine stressed the goal of involving more sources of information in the reputational survey, Morse acknowledged that "some college presidents and others have been and continue to have strong feelings about the peer survey and the way *U.S. News* conducts it."
Lloyd Thacker, founder of the Education Conservancy and a leading critic of rankings, said he wasn't impressed by the changes in the methodology. "What's the definition of alchemy?" he asked, after the changes were described to him.

He said that the fundamental problems with rankings remain, in that they give a false sense of some colleges being better than others and ignore the need to focus on student needs as opposed to prestige. "The rankings are not rooted in education," he said. "They are trying to sell magazines. Is this going to be any more educationally credible? I don't see that."

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